

July 1995 - Volume 12, No 7

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Review

The New
Amiga
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Conference

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AMIGA OS 3.1 A1200

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A500
A2000
A3000
A4000

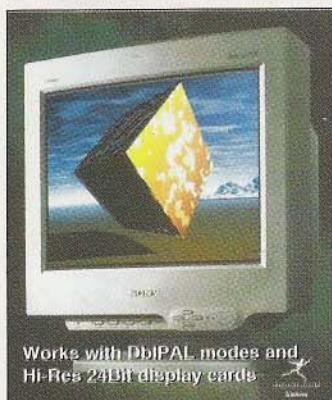
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DKB Cobra 40

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DKB 1202

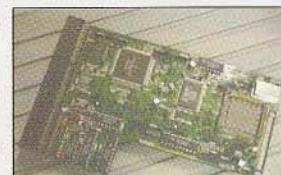
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\$2299**CyberStorm**

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The Personal Animation Recorder is shaping up to be one of the most powerful and popular Digital Video cards for the Amiga.

Its quality has passed the broadcast test at many of Australia's commercial television networks. By now I'm sure you have seen the PAR output on television, but not know you've been watching it!

Many of our clients are using the PAR with 3D rendering packages such as Lightwave to produce TV commercials, Music videos and much, much more.

Put your Amiga in its Place!

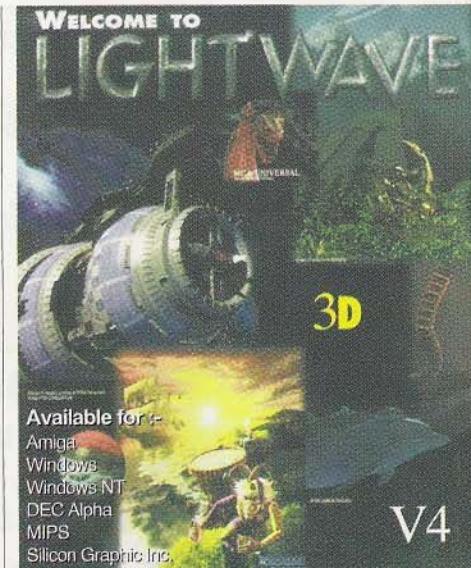
with Professional DeskTop Video products from SigmaCom.

Here are some of the reasons the PAR has become so popular :-

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- Y/C output (S-VHS® Hi8®)
- Composite Video output
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With the Capture board you add even more versatility :-

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- Y/C input (S-VHS® Hi8®)
- Composite Video input



Model, Animate & Render with the Incredibly powerful New version of LIGHTWAVE 3D. Version 4. Some of its new features include, Inverse Kinematics, Metaform functions and Multi Platform support - plus much more.



Here at last.... an affordable, broadcast resolution non-linear editing system has finally arrived in the form of V-Lab Motion!

Its a fully functional non-linear editor and real time 24-bit animation recorder with audio support via the Toccata 16 bit stereo sampler card.

Full time line edit control with A/B roll type interfares and wipes. Also keying and "Blue Box" effects.

V-Lab Motion was "product of the year" in AMIGA PLUS (Germany) as well as a "Perfect 10" an AMIGA COMPUTING First.

Here are some of the features of the V-Lab motion system :-

- Outstanding quality non-linear editor
- 16 bit audio with the Toccata
- Complete ARexx support
- Comprehensive digital effects
- Digital character generator
- Chroma keying for "Blue Box" FX
- Composite & Y/C inputs
- Composite & Y/C outputs
- Freely adjustable data rates
- Optional Component in/outputs
- Powerful Movie Shop Software
- Time Line & Hierarchical editing
- Use as animation recorder
- \$ 2788 for V-Lab Motion
- \$ 869 for Toccata

"The V-Lab Motion system will blow your socks off!"

-- Michael Ricks, Producer/Director
-- SUNSTONE PICTURES, Phoenix, Arizona



MM400 is the latest upgrade to SCALA and adds multi-platform support with the addition of the File format EX's, New text wipes, better anti-aliasing, X/Y font scaling and more.

Coming soon will be SCALA MM100
The first real Multi Media software
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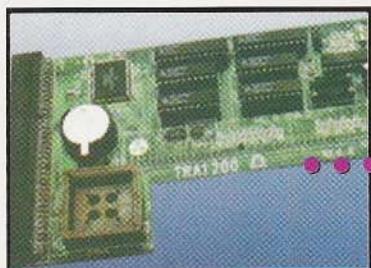
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Features



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Get your A1200 up to speed - on the cheap!



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ESCOM's plans take shape.

65 Iomega Zip Drive

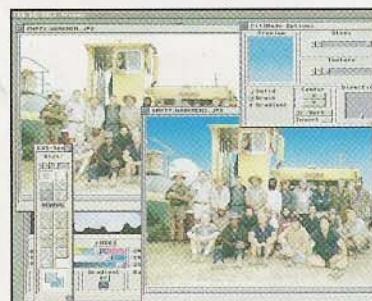
The removable drive that'll kill the SyQuest

15 Amax IV

The latest version of the MAC emulator.

23 OS 3.1 and graphics boards

The benefits of the latest AmigaDOS for power users.



Cover created by Jarrod Pudsey

Image: 1500 x 2000

Program: Lightwave 3.5

Machine: A4000/040/40MHz

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Reader Survey Results

► Amigas? Hey, aren't they really big in desktop video? Well no, they're not - or at least not according to the people who replied to our Reader Survey in the May issue. People who own Amigas are interested in graphics and paint programs, true, but the number two activity is wordprocessing, followed by desktop publishing. Amiga owners with genlocks are a minority.

Yes, reader surveys do turn up some interesting figures. We take notice of them, but they're not the final measure of you, our readers. We also go by the many phone conversations you have with us, letters we receive through the year and general feedback from all sources. At some point we have to decide what sort of articles to run, and what to leave out.

It seems fair to say that our programming columns are not very popular, whereas Daniel Rutter's Hot PD and tutorials from people like Jarrod Pudsey on programs for animation and painting are big winners. So you'll see we've dropped a couple of our old columns and we have some new ones in store. But if you're into CanDo, AMOS or Blitz, don't despair. We plan to keep covering these products, but the program listings will now be available on an optional disk rather than printed in the magazine. We'll never be starting a C column, or an Assembler column; after much discussion we all agreed that a month by month, blow by blow guide to getting started in one of these two

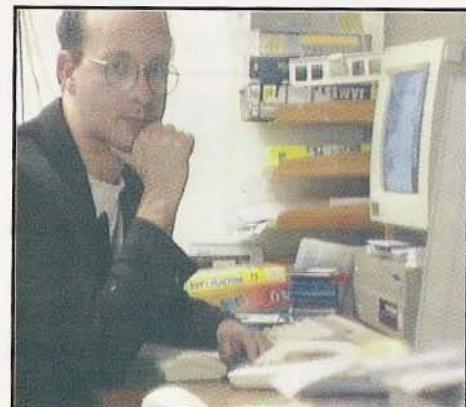
dark arts would be only prolong an already complex process. You're better off with a good book.

In the future, expect to see more on getting the most out of mainstream products like Wordworth, Final Writer and desktop publishing software like PageStream and, of course, the package we use, Professional Page. We'll continue to review most of the better new CD titles, as a surprising number of people have CD-ROM drives, CD32 or CDTV. We're also planning more on getting onto the Internet, looking at making the process easier and providing guidance as to where to go once you're connected.

We will also continue to review every new piece of Amiga hardware or software we can get our hands on. Some people have suggested that we ought to go a little easier on some of the products we review, but we don't agree. Just because a particular program is the only one available, or the only one of its kind, isn't an excuse to cut corners or fall way below expected levels of quality. We take our hats off to anyone involved with development of Amiga products (Australian or otherwise), but we will also always be the first to say when something doesn't cut it.

Compare the strategies of Digita, who recently released Organiser, a brilliant program with many good features, with Soft-Logik, who of course are still making Pagestream 3.0.

Organiser 1.0 has plenty of room to



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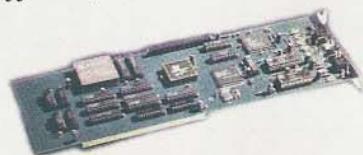
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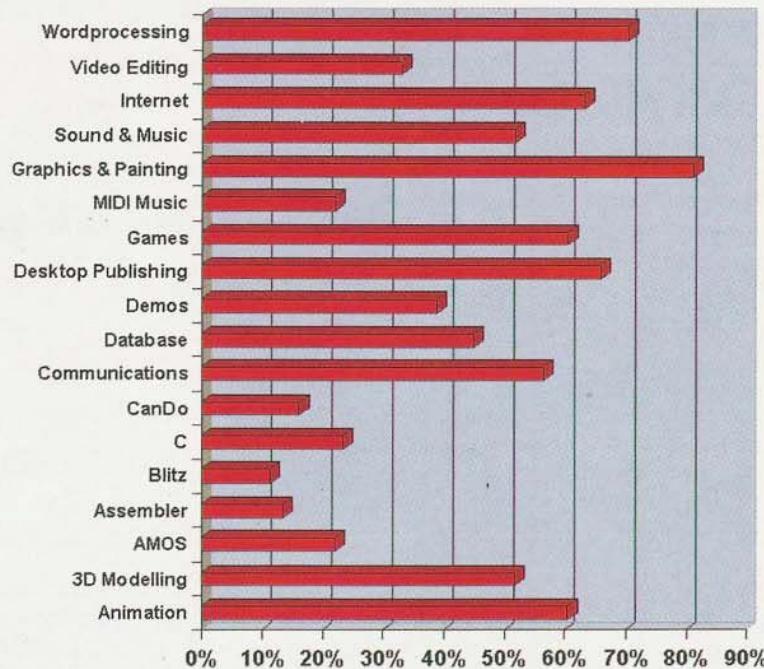
add bells and whistles, but what it does now it does well, reliably and quickly. DigiTa are the first to admit there are some things that some users would love to have seen added, and they have already promised version 2.0, told us what will be in it, and are busy working on it.

Soft-Logik took a different approach. They've tried to release a program with zillions of features and ended up with a package that to this day is unfinished and has many shortcomings. Perhaps they'd have been better off releasing a lesser program that worked than aiming for such heights and have their good name tarnished by what is essentially an unfinished program.

One day Pagestream 3 will be an amazing product. Today it stands as a blunt reminder that reaching for the sky may not leave you with a handful of mud, but it can sure be hard to see over them mountains.

□

Reader Interests



Hard Disk Mechanisms

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• Lightning 540MB SCSI II	\$ 399-
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A4000 Seagate IDE Drives:	
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• A600 1MB RAM Expansion (with clock)	\$ 149-
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• GVP A1230 II 40MHz Co-Pro	\$ 139-
• GVP A1230 II 50MHz Co-Pro	\$ 199-
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• GVP 40MHz '040 4 MB 32bit RAM	\$1649-
• Warp Engine 040 40MHz	\$2299-

A500/A2000 Chip RAM Expansion:	
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DKB

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Products*

1202, no Co-Pro, 0MB	\$ 159-
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- no Co-Pro, 0MB	
Cobra '030EC 40MHz	\$ 449-
- no Co-Pro, 0MB	
Mongoose '030MMU 50MHz	\$ 649-
- 50MHz 68882, 0MB	
SCSI-II Option for Cobra & Mongoose	\$ 195-
RAM purchased WITH Mongoose or Cobra:	
- 4MB 32 bit RAM	\$ 250-
- 8MB 32 bit RAM	\$ 500-

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Amiback	\$ 55.00	Imagine 3 PAL	<i>Special \$269.00</i>
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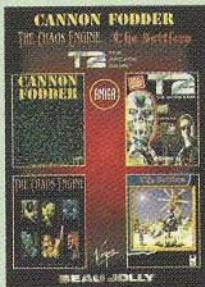
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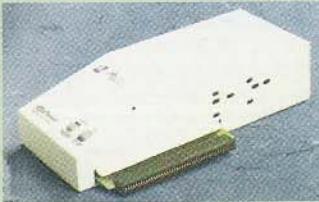
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Competition Pro Joypad	\$ 49.00
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- Suits SX-1/CD32 Users	\$ 40.00
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- AmiNET Set 1 **\$ 69.95**
- PhotoworX **\$ 99.00**
- Fresh Fish Vol 9 **\$ 44.95**
- Fresh Fonts Vol. 1 **\$ 14.95**
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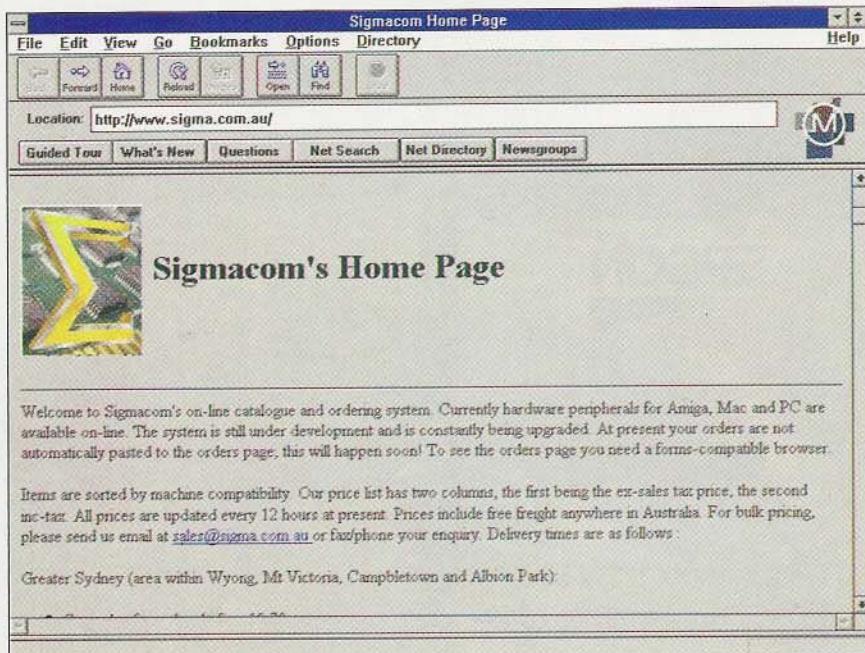
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Sigmacom on the Web

► Local Amiga dealers Sigmacom now have a World Wide Web address - it's "http://www.sigmacom.com.au". It's still pretty bare-bones at the time of writing, but improvements are in progress; as it stands, Sigmacom's page shows you price lists updated every 12 hours, with ordering by fax

or E-mail. If you order by 10:30, you'll get same day courier delivery in Sydney, and freight is free Australia-wide. Contact Sigmacom on (02) 524 9846 for more information.

Look out for Amiga Review and PC Review pages on the Sigmacom site soon!



DSS8+ software upgrade

► Owners of clear-cased GVP DSS8+ sound digitisers will be pleased to know the software's been upgraded to v3.0. New features include direct-to-hard-disk recording, playback and editing, the ability to load and save WAV format files, up to 100 samples loaded at a time and more. The upgrade costs \$45 including postage, and is available from Peripheral World, PO Box 627, Croydon 3136.

Contact Peripheral World on (03) 9725 3233 for more info.

Another One bites the dust

► The One, the UK Amiga games magazine published by the same group that produces CU Amiga, is closing. The reasons quoted were the faltering Amiga games market and the loss of the magazine's editor in chief to games company Bullfrog.

Mind you, with the expected resurgence of the Amiga now that Amiga Technologies has been created, they could be back.

MM400/Echo talking again

► Scala Echo EE100 has been updated to fix the compatibility problems with Scala MM400. You can get upgrades from your dealer, or by sending your original disk with a stamped self addressed envelope to Peripheral World at PO Box 627, Croydon 3136.

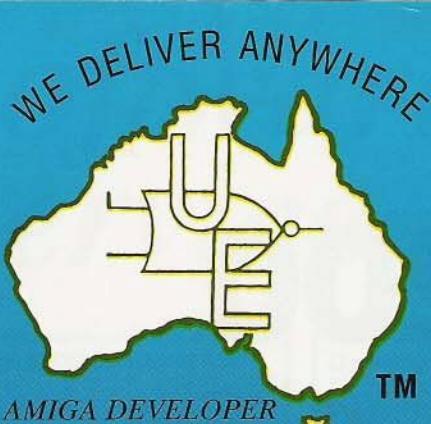
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Budget A1200 Accelerators

By Daniel Rutter

► It's becoming cheaper and cheaper to accelerate your A1200 - whether you do it the skinflint way by just adding some fast RAM and watching your machine get 60% faster, or whether you stick a full-blown processor replacement card into your trapdoor slot.

We checked out three of the latest cut-rate accelerators - the RCA120 memory expansion board, the TRA1200 28MHz 68020 accelerator and the DKB Cobra 28MHz 68030. All of the boards include a clock and have a socket for a Floating Point Unit

(FPU), and all of them come with poorly proofed, amusingly translated single page instruction sheets that tell you all you need to know.

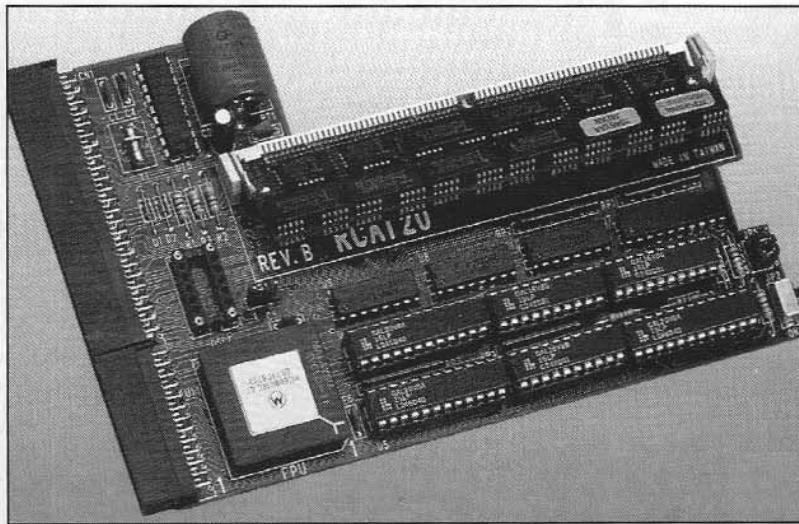
The RCA120 lets you add up to 8Mb of RAM using a single standard 72 pin SIMM module. You can install 1Mb or 2Mb if you're strapped for cash, but 4Mb is more practical and 8Mb will give you enough headroom for some serious computing. The TRA1200 will only accept 2Mb, 4Mb or 8Mb. The Cobra accelerator has a full 68030 (not a cut-down 68EC030 with no Memory Management Unit) and

can take up to 128MB RAM, though you'll be spending truly astronomical amounts of money if you go for the upper reaches, since there's still only one SIMM socket. You can also plug an optional SCSI interface into the Cobra.

The prices are the impressive part - the RCA120 costs \$399 with 4Mb of RAM, but the TRA1200 costs only \$499 with 4Mb, and the Cobra with 4Mb is only \$549. This is pretty danged respectable.

Installation

The 1200 trapdoor is not a masterpiece of modern design. You have to wiggle cards into it, and all of the high-powered ones are traditionally too long for you to get a finger behind them to push the edge connector on so you have to stick a screwdriver through a hole and push on it, or rip the whole top off your machine, blah blah blah. I've had a lot of practice and know how tough fibreglass circuit boards are, so I managed to get all three boards into and out of the test machine without taking the lid off. If you're a beginner, take it slowly and make sure the connector's lined up properly before you





burst a blood vessel pushing on the end of the board. If nothing's gone in your trapdoor socket before and the board is new, it's likely to be a very tight fit so some elbow grease will be required - a touch of WD40 on the connector doesn't hurt, either. Persevere.

One man's meat...

Once in, you may be overjoyed to discover that your board does not work, though it may work in another computer and your computer may work with other boards. This is a known problem, and if you're unlucky you may be stuck with a machine that just plain won't work with some, or any, accelerators. Why? Good question.

Some 1200s just don't like accelerator boards. Theories on why this is are many and varied, but it's a fact. Some 1200s don't work with certain accelerators but do with others, some interact in peculiar ways, some are fine with everything you throw at them. Most are OK, but I tried two different 28MHz 020 boards in two different A1200s, and both displayed the same bizarre error (couldn't load files over about 10K from the hard drive without hanging).

All of the decent dealers know about the odd 1200s out there, and shouldn't give you any trouble if you need to swap or refund a board. They won't be happy about it, but they shouldn't accuse you of breaking the board or computer yourself. To avoid frustration, it's best to take your 1200 to the store and get the board installed and tested there. If it works to start with, it should keep working forever.

Making numbers

The 68020 is not very far behind the 68030 in performance - it's not the blink-and-you'll-miss-it difference that exists between the 68000 and 68010, but it's not

much better. The full 68030 has a built in memory management unit as its chief differentiating factor (the 020 has to use an outboard 68851, and the TRA1200 doesn't have a socket for one); in pure performance there's not that much in it.

Nonetheless, you'd expect an 030 to beat an 020 at the same clock speed. Stands to reason. But when I made numbers on the two different 28MHz boards, the 030 was, overall, beaten - taking all the tests into account, it came up with 93% of the overall speed of the 020. The fast RAM only RCA120 only managed 58% of the overall speed of the 020.

Why so slow?

The only reason I can think of for the budget 030 running slower than the 020 at the same clock speed is that either the 030 has a particularly inefficient memory access design, or the 020 has a particularly good one.

This suspicion was borne out by AIBB's MemTest, which times the efficiency of memory transfers; the RCA120 scored 2.12 times the speed of a stock no fast RAM 1200, the 020 scored 3.63, and the 030 scored only 1.81.

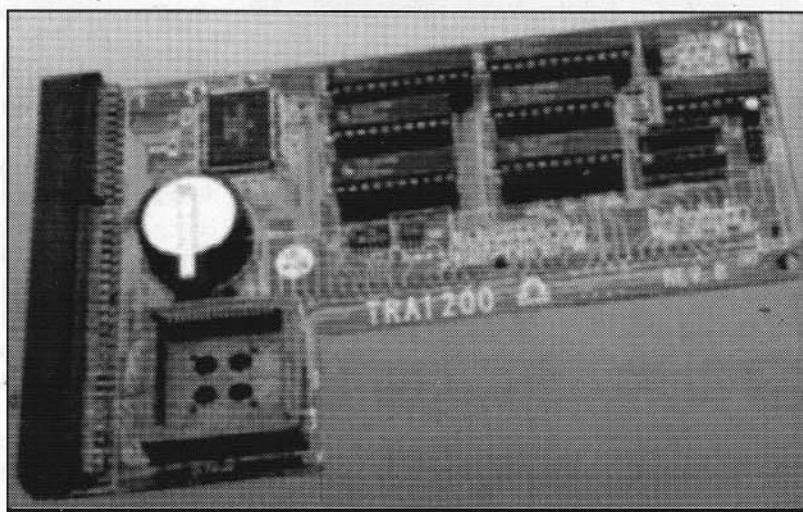
Decisions, decisions...

If you're strapped for cash, the simple RCA120 RAM expander will make your machine 1.6 times faster and only cost you \$400 with 4Mb RAM. But for a hundred bucks more, the TRA1200 020 board will give you a machine 2.75 times stock 1200 speed.

Then again, for only \$50 more again the Cobra gives you an MMU and a SCSI upgrade path, so if one or both of these outweigh for you a 7% performance hit, then by all means go for the Cobra. The Cobra's extra RAM capacity isn't so important, because SIMMs above 8Mb capacity get very expensive and if you're going to build a monster machine like that you really should start with a big-box Amiga.

If you're looking for the very best bang per buck, you can't go past the TRA1200. If you want SCSI, you can get a Squirrel SCSI interface for the A1200 PCMCIA port for \$180 or so, whereas the SCSI add-on for the Cobra will set you back something like \$200; the Squirrel won't be quite as fast but it'll work. Overall, for the average 1200 user, the TRA1200 looks like an excellent deal.

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The new Amiga

By Daniel Rutter

ESCOM AG, the new owners of the Amiga technology, held a press conference in Frankfurt on the 30th of May to tell the world their plans for the platform. A mound of transcripts resulted; here are the pertinent details.

The first speaker was Petro Tyschitschenko, the General Manager of the new Amiga company, Amiga Technologies. He made clear that ESCOM are determined to resume production and also continue hardware and software devel-

opment, since ESCOM consider the Amiga to be "the key to multimedia technology".

He described the structure of the new company - it's based in Bensheim, Germany, and will employ around 50 people for development, support, production management, marketing, PR and administration. Amiga Technologies has also taken over the former Commodore development centre in Norristown, USA, which will return to its R&D role.

He said that Commodore PC clones will be back in production; ESCOM's going to make them "fully loaded P75 and P100 multimedia PCs" and plans to sell 50,000 to 60,000 before the end of the year. Since ESCOM is already Germany's second biggest clone maker, this is quite possible, but Amiga Technologies will have nothing to do with PC making.

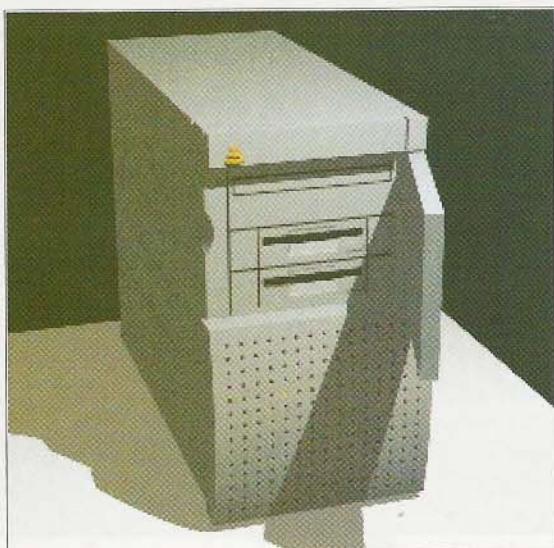
Available in September will be the Amiga 4000 Tower, at last in mass production and with a spiffy new mini-tower case (see pictures!).

There are already, unsurprisingly, big orders for the machine and they aim to pump out enough to meet demand.

In October, A1200s and CD32s will be back in production. Tyschitschenko denied rumours of back stock of Amigas ready to sell, and said that negotiations are continuing with Philippines trustees for the release of the inventory in Commodore's warehouse there.

For the future, Tyschitschenko said developers are now working on new RISC Amigas and on improving current models, in partnership with Scala and Motorola.

He said he anticipated a turnover of 100 million DM (or about the same number of Australian dollars) in 1995, mainly from Christmas sales of A1200, A4000 and CD32 machines and also from technology licensing. Monthly expenses are expected to be about 600,000DM, which means ESCOM expect to make back their quoted \$US10M or so





investment this year, and certainly by early 1996.

Next up was Manfred Schmitt, Chairman of ESCOM's executive board. He mentioned the flood of congratulatory messages ESCOM has received from Amiga users, and clarified exactly what it is that ESCOM sees in the Amiga.

According to Schmitt, ESCOM is changing from a PC clone maker into a multimedia company. They've got their eyes on the embryonic pay TV, video on demand, home banking, home shopping and online service markets, and they want a software and hardware platform to build on - which is where the Amiga comes in.

The low price combined with top line hardware and OS features in the entry level and high powered Amigas is attractive to ESCOM - as Schmitt said, "The Amiga operating system needs 8 times less memory than Windows, and it multitasks better than Windows ... the Amiga is still a very efficient and unexpensive (sic) computer." He also praised the Amiga's unparalleled built-in video compatibility, which makes it much easier to integrate into a set-top box application.

Using Viscorp, the first Amiga licensee, as an example, Schmitt emphasised ESCOM's dedication to mutually beneficial alliances.

Dr Peter Kittel, Head of the Product Planning Group at Amiga Technologies, took the stand next. He gave a potted history of Commodore and the Amiga, and again foreshadowed the Amiga's move to a completely new architecture, mentioning the difficulties involved in making the platform as accessible as possible for existing applications from other machines to be transferred, while still keeping cutting-edge capabilities. As far as Kittel's concerned, future

Amigas look to be PowerPC or HP PA RISC powered.

Jeff Frank is a nine-year Commodore veteran who used to be the Director of Development for Commodore International, and is now working on Amiga hardware and OS development. He spoke briefly about future directions as well. According to him, the new 4000Ts and 1200s will come with Amiga-DOS 3.1, and will be upgraded pending the arrival of a whole new system. 68060 based A4000Ts and 68EC030 based A1200s were the two possibilities he mentioned.

Jon Bohmer, the founder of Scala, plugged his highly successful product line and stated that "no other solution can match the price performance of the Amiga and Scala combination", and that Scala "look forward to working closely with the new Amiga Technologies company in order to provide ready-to-use solutions with every machine."

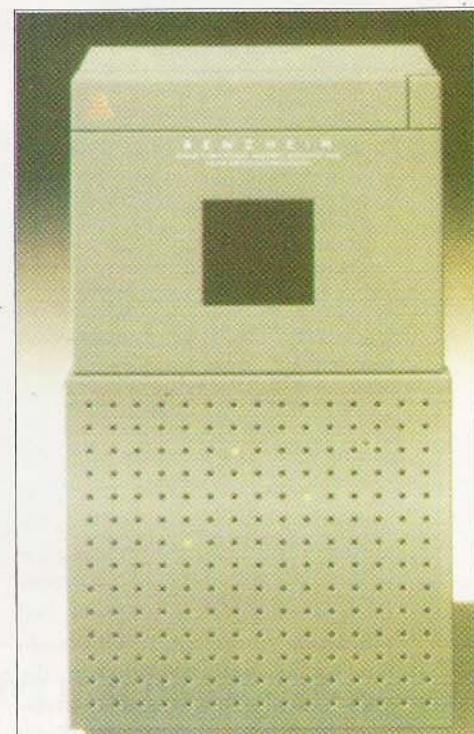
He also mentioned the fact that Escom has chosen one of Scala's designers, Bjorn Rybakken, to create the new look for the new Amiga - Bjorn is said to be responsible for the styling of the new A4000T, and for the new four-bars Amiga logo.

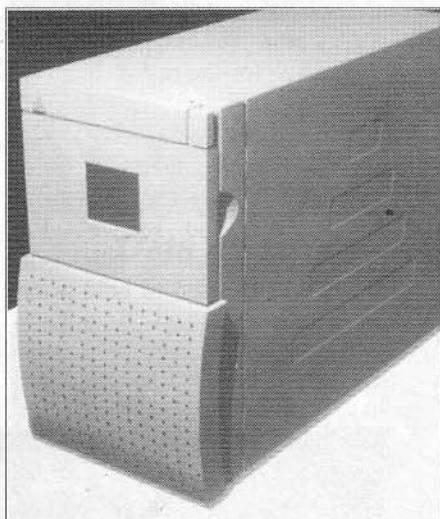
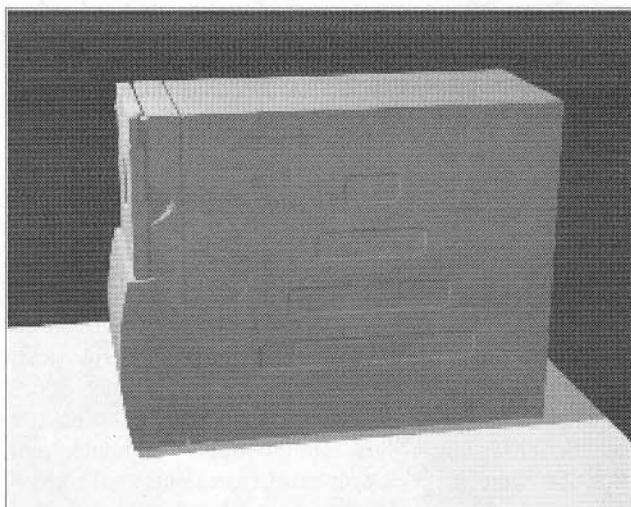
Hartmut Esslinger, head of frogdesign, a company that's designed products for Sony, Apple, 3M, Kodak, NeXT, Polaroid, Toshiba, Sun, Packard Bell, Louis Vuitton, Logitech, General Electric and AT&T, spoke on his new contract to design Amigas. His speech was long on concepts and short on detail - to be expected, since new machines haven't even made it to the drawing boards yet - but if his vision for the Amiga is followed we can expect future machines to go way beyond the "beigegoods" look favoured by the bulk of com-

puter manufacturers, but rather become "high tech fashion statements". There will be machines to appeal to young people, to women (who apparently want "emotional and elegant" computers), to power-hungry web-surfers and what he disturbingly called "machine-crazies".

Bernard van Tienen, Head of Distribution, said that European distribution for both Commodore PCs and Amigas would be mainly via retail outlets - computer and department stores and mail order - with a few other key distributors and specialist stores for high-end Amiga gear. No solid plans had yet been made for the rest of the world.

He laid out Commodore's marketing strategy, based on "price competitiveness, sales and marketing support, and service". ESCOM's considerable purchasing power will be used to hold prices down, and there will be a European training program for distributors and sales staff. He also men-





tioned "a range of service options", which sounds like paying for support but isn't necessarily.

Don Gilbreath is a 12 year Commodore veteran - he was in charge of the CDTV development team. He is also Chief Technical Officer with Viscorp, the first Amiga licensee. He views Amiga technology as the next step for Viscorp - they currently have their own proprietary system, still in the market test stage - and hopes that it will win in the current "mass confusion" of different designs and standards. According to Gilbreath, the Amiga will fit between the pure video game systems envisaged by Nintendo, Sega and Sony

and the high priced concepts put forward by other computer companies.

The new Viscorp platform is planned to "support all currently envisioned interactive applications, with the exception of

full motion video on demand and practical speed CD audio delivery". Viscorp is aiming to form a consortium to develop Amiga-based set-top boxes.

Ed Goff is a Philadelphia lawyer working with ESCOM and Amiga Technologies on "a wide variety of issues related to the re-launch of Amigas", and he also talked about licensing.

He pointed out the difference between ESCOM's open approach, where anyone can buy a license, and Commodore's closed-shop strategy.

According to Goff, Amiga Technologies will be aiming for partnerships with "well known names" in the electronics and telecommunications industries", to help ESCOM "fund further development of new and advanced products based partly on Amiga and partly on proprietary and public systems provided by the strategic partner".

Amiga Technologies are also pursuing licenses from companies, like Viscorp, who want to embed Amiga technology in their products. Goff also alluded to the extraction of license fees from "people and companies who are already using the technology covered by the portfolio of patents,

copyrights, and trademarks now owned by Escom. Often this area can be unpleasant because some of these folks have never recognized in any formal way their use of the technology". Exactly who these "folks" are and what they have to say on the issue nobody has officially said, but odds are it's the companies that have been making C64's in China without licenses.

Independent reports of statements outside the main speeches and question-and-answer sessions have filled in a few more gaps.

Amiga OS development will be based in Stansted, UK, with service and spares at Commodore's old German site in Braunschweig.

The expected production figures are impressive - 25,000 of the recased but otherwise stock A4000Ts will be produced to fill orders already received, and it's possible that about 10,000 of these will be fitted with Phase 5's Cyberstorm 68060 accelerator card.

Escom plan to have 120,000 1200s out by Christmas, and plan an A1300, 68030 driven, with built-in CD-ROM.

The Amiga Technologies/Scala alliance has one immediate result - all Amigas will apparently come with Scala Multimedia 300!

And the old subject of Amiga cards for PCs has also been brought up again; with the new management it may well happen.

Hip hip hooray!

If any doubts remained, this should kill them. Escom seem dedicated to the complete revitalisation of the Amiga line and its continuation into the future, and we should be seeing the new machines, as they say, Real Soon Now. New logo, new name, new machines - same spirit!



Amax IV

- the other Mac emulator

By Mark Fairbairn

This article is about my experience with the latest version of the Amax Macintosh emulator, which is now a software/Zorro card combination.

The main reason I bought Amax was to be able to take my work home, as I am a secondary school teacher and most of my classes, involve Macintosh computers.

I have been using Amax since it was first released in about 1990. The original Amax consisted of a cartridge which you plugged into the disk drive port with a pass-through port for the Amiga external drive, and a side port into which you could plug a Mac external drive if you were lucky enough to have one.

You also needed a pair of Mac Plus 128K ROMs, which at the time were relatively easy to get from Apple. Later on they stopped selling them unless you could give them a set of defective ROMs in exchange - I guess they didn't like the competition.

The original Amax was floppy drive only - not many people had hard drives back then anyway. I can't remember now how long it

was until I upgraded to version 2 which supported hard drive access, nor can I remember how much money I have spent over the years upgrading the program. It's probably best I don't remember.

Back to the present. I've tried many programs I use every day at work - Claris Works, MicroSoft Works, Ready Set Go!, Hypercard, FileMaker Pro (if only the Amiga had a database like this!), One-Scanner, SuperPaint, Paint It, Res Edit, Zork, Adventure Game Toolkit, QuickTake, System 7.1 and lots of other programs and utilities. I have never found a program that won't work. But what about speed, you ask?

I am now running Amax IV on an Amiga 4000/030, 68882 FPU with 18Mb RAM. The memory is overkill - 4Mb is tolerable. You don't have to have the FPU or an AGA machine either, but you do need to be able to plug the Zorro card in somewhere and you also need at least an 020 CPU. On my machine, the emulation speed is at least equal to a Mac LCII, but perhaps not quite as fast as an LCIII - no doubt it would be a lot faster again if I had a 68040 in my A4000.

Screen updates using 256 colours are a little slow (if you've tried a 256 colour Workbench you'll know what I mean), but changing the Mac desktop to 16 colours makes updates very snappy. If you're familiar with Macs, you may find it interesting that the operating system thinks it's running on a Quadra 950!

Although the system tests don't look all that favourable compared with a Quadra 700 (fig 1a, 1b, 1c), Amax is still at least as fast as the computer most Mac users are working on.

I said 4Mb should be enough RAM, but one of the best new features of Amax IV is of course the ability to multitask, running your Amiga programs at the same time - and you'll need more memory for them. Being able to run Amiga, Macintosh and IBM programs all at once really does impress the natives. I knew I could justify all that RAM.

Hardware installation is fairly simple - insert the Mac ROMs (still the original Mac Plus 128K ROMs) into the full length Zorro card, plug the card into a Zorro slot, plug the floppy cable into the

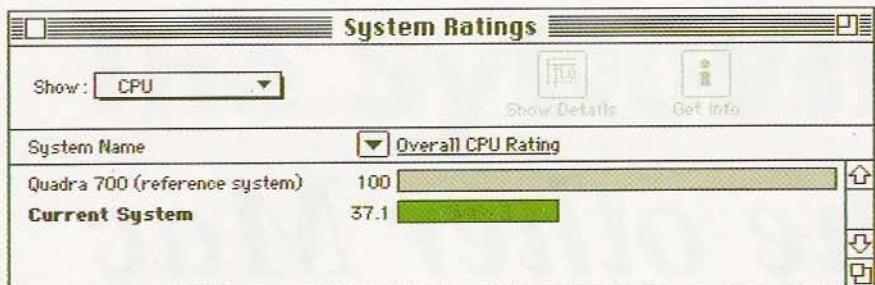


Fig. 1a

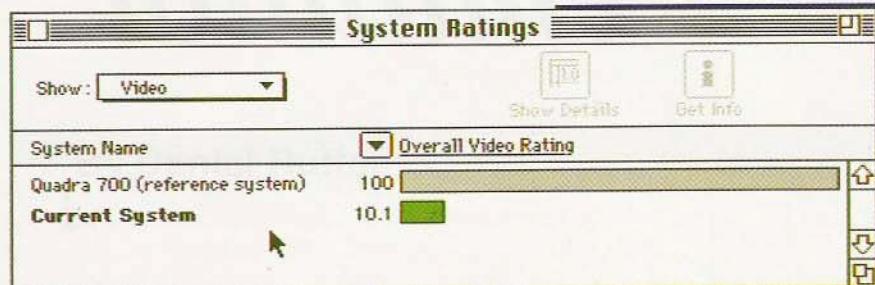


Fig. 1b

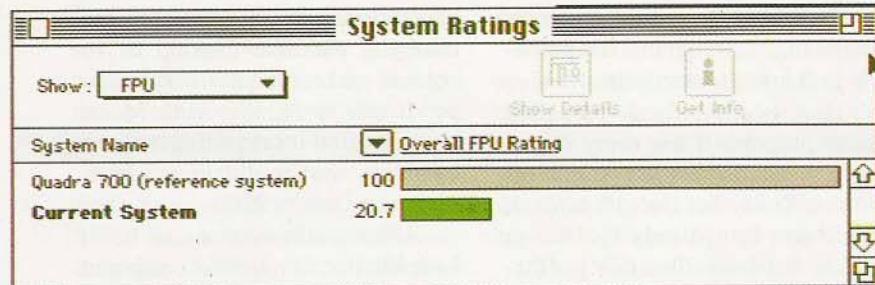


Fig. 1c

Zorro card, another cable to the floppy drives and the hardware installation is complete.

Software installation is no harder; the manual is easy to follow and well set out. The only odd thing about Amax's operation is the A-maxinit command that's called from your startup-sequence, which patches your system and re-boots whenever you cold boot the machine - that, and all subsequent warm boots, work normally.

After installing the software, you should set up a partition on one of your drives with a device name of AMAX: or similar; there's no need to format it through DOS, as it will be formatted by Amax. I

use a 105Mb Syquest cartridge connected to a GVP 4008 SCSI card for my Amax partition; if I ever get a Syquest at work then transferring files to a "real" Mac should be even easier, because the drive is formatted in Macintosh format. If you know how to partition a hard drive with the driver software for your SCSI controller, then setting up a Mac partition won't be a problem. I managed to get it going first time.

After loading Amax, you need to set up your preference options, again easy enough if you follow the instructions, including the SCSI option about recognizing other SCSI devices such as CD-

ROMs, scanners and so on (Fig 2). As I don't have a CD-ROM or SCSI scanner I haven't been able to try this out, but having the Mac OS able to recognise and use your Amiga CD-ROM would be excellent. I intend to get a CD-ROM so I can access all the Macintosh CD software.

Amax supports many 24 bit graphic boards, but unfortunately I don't have one. The video options are interesting - it's possible to set up a number of "virtual monitors". This means you can have two screen modes defined, say DBLPAL No Flicker and MULTISCAN Productivity. You can then drag objects from one virtual monitor to another - confusing, but quite a neat feature when you actually use it.

And if you're one of the lucky people who have a 24 bit board, one monitor connected to the normal Amiga output and the other to the graphics card, you can then drag objects around your desktop from one monitor to the other. There is also the option of having an extra large desktop (user definable) just like an oversized Amiga Workbench - you can scroll by pushing the mouse to the edge of the screen. This is very useful for desktop publishing; it's much quicker to scroll the screen than to scroll the document around in its own window. It's not actually possible to do this on the Macs I've used (up to the 630) without having another monitor connected.

Once you've gone through all the Amax setup options, all that's left to do is to click on the start button. After a few seconds you should see the familiar Mac question mark while it waits for a System Folder disk to be inserted. It's important to note that Amax will only work with version 7.x of the Mac OS, although 7.1 is suggested to overcome problems associated with version 7.0.



Insert your original Mac system disk and away you go; as soon as the operating system is loaded it will ask you to format the hard drive (AMAX: partition); it's then just a simple (but time consuming) matter of installing the Mac OS onto your hard drive. As the A4000 comes standard with high density drives, it will read and write to Macintosh HD disks. Having the OS transferred to 800K Mac disks won't help, because the Amiga drives cannot read the 800K Superdrive format - an external HD floppies should overcome this for the A2000 and A3000 owners.

The only disadvantage of the high density floppy drives is they are very slow reading and writing Macintosh disks, but it does work and that's the important thing. Floppy drives aren't used much now anyway, now that everyone has a hard drive.

The Zorro card has the printer and modem ports all Macs have, along with a switch to use the modem port as a MIDI port. Any Macintosh hardware that uses these ports will work through Amax. Comms software does not force you to use the Mac modem port, as the preferences program lets you define the Amiga parallel and serial ports to use instead. But it's very handy to have the standard Mac ports, so you can plug in an Apple laser printer or the Apple Quicktake camera (which I have yet to try) for example. Unfortunately, you can't use these extra ports through the Amiga OS.

Another Mac program I use is called Remote Access. It allows you to use your modem to connect to another Mac running Remote Access. You can then use the machine as if you were sitting in front of it, accessing any other computers on an AppleTalk network to read and write files, even printing on a printer far away, all using the mac GUI.

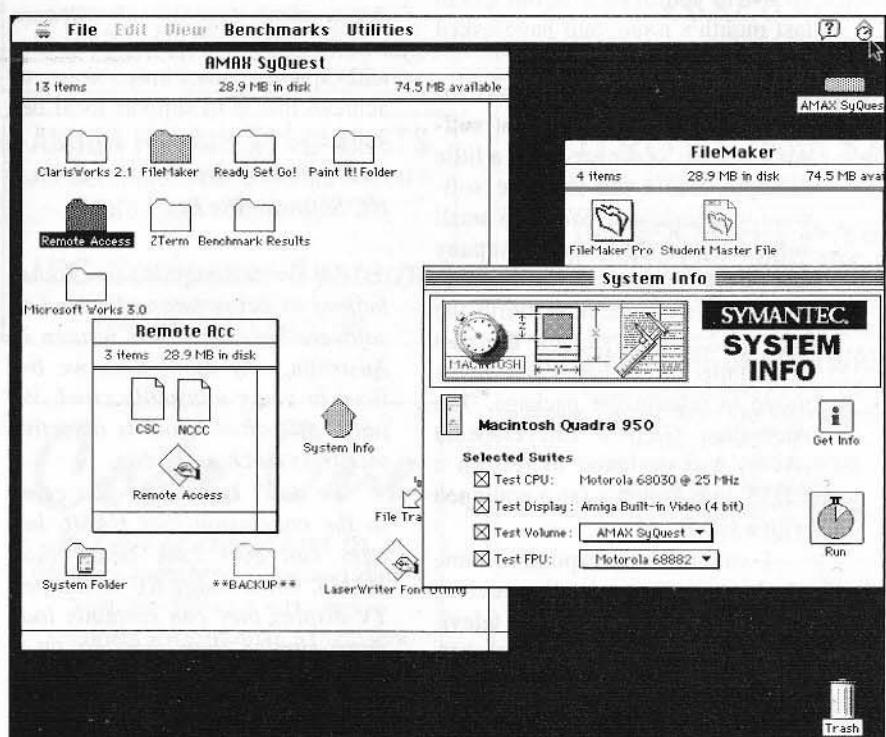
If you're considering Amax over Emplant, before parting with any of your money, make sure you can get hold of the two Macintosh ROMs, because Apple (in Australia anyway) won't sell you them. If you can dig up a trashed Mac Plus in a second hand computer store it shouldn't cost you much and you can rip the ROMs out of it, but otherwise you'll be in trouble.

I have been very happy with Amax IV and all the earlier ver-

sions. As I have already mentioned, I have yet to find a program that does not work as well as it does on a "real" Mac. I would be interested to hear from any Emplant users and to perhaps compare the two systems, as I don't know anything about Emplant.

I can be contacted at the address below if anyone has any questions:

Mark Fairbairn,
3:637/200.2@FidoNet



Amax screen capture

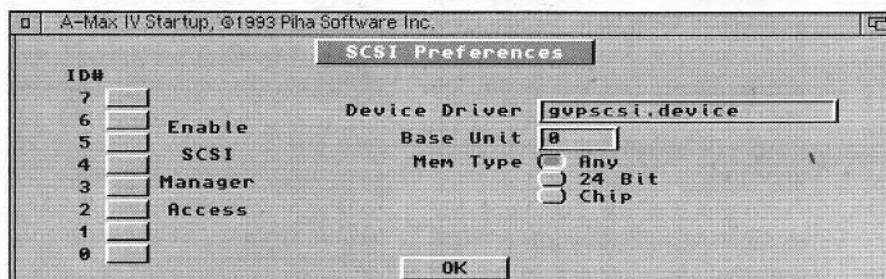


Fig. 2

This is the SCSI options for using other Amiga SCSI devices from the Mac emulation.

Edited



to the editor

HC Software Replies

Several of our customers who use our Australian Graphic Encyclopedia have contacted us in response to your review of our CD in last month's issue, and have asked me to respond.

I would like to thank you for doing a review on our latest software release, however I was a little disappointed in the way the software was reviewed. We are a small software development company and have supported the Amiga since it's (sic) inception. With the lack of Amiga's (sic) for the past 18 months we feel it was a brave move to release the package. The Australian Graphic Encyclopedia (AGE) was designed to run on a CD32 and Amiga's (sic) equipped with a CD ROM.

I would like to respond to some of the comments in the review. Most owners of CD32s use television sets so some images work better in HAM6 than they do in HAM8 when displayed on a TV. As for the typo error, in a production as large as this, then it is inevitable that one or two misspelled words may be missed and in over 3000 images and information screens then I feel this is not too bad. Encarta, if I looked hard enough would probable (sic) have some too.

To run Encarta you need approximately \$2,500 worth of IBM hardware and software, to run the AGE you need less than \$500. Having it compared to a BIG budget IBM software (sic) I feel was a little unfair. Perhaps comparing it

to another Australian produced Multimedia CD would have been more appropriate? As I believe we are the only company in Australia producing CD ROMS for the Amiga at the moment and have the only Multimedia software in this country, then this would be a little difficult, I know.

How about a little encouragement for local products and less of the "IBM's are better". When are we going to stop thinking just because it's Australian software, it can not be any good. Australia produces some exceptional software and if you want better programs and quality the only way to achieve this is to support local developers.

*Paul Johnson, Systems Director
HC Software Pty Ltd*

Ed: We at Amiga Review do not believe in being unusually kind to software because it was written in Australia, any more than we believe in being unusually cruel. We judge all software on its objective merits as much as we can.

We don't know how you came to the conclusion that HAM6 images can ever look better than HAM8. On a dodgy RF-modulated TV display they can certainly look more similar than they do on a good monitor, and HAM6 takes up less space, but HAM8 has a palette 64 times larger and can be displayed at twice the resolution - or more - and so, inherently, is a higher quality format.

As regards typographical and grammatical errors, we accept that a few will creep in eventually despite all reasonable proofing efforts; we produce a magazine, we know how it happens. But the Australian Graphic Encyclopedia, in our opinion, had far more errors than could be explained by anything other than woefully inadequate checking.

It was plain that the text had

not even been spell-checked.

We also await an explanation for the remarkably slow loading times for menus - why does it take more than two and a half minutes to load a screen and a simple looping sound sample? Even if all of the CD32's stock 2Mb RAM is being used, it should take less than 10 seconds to load it all from CD.

Indeed, to run Encarta you need an IBM that costs considerably more than a CD32. But as we said at the start of the review, the Australian Graphic Encyclopedia "doesn't set its sights as high as Encarta, not by a long chalk". The review was not a direct comparison; we didn't expect as much content in the Australian Graphic Encyclopedia. But to make a good multimedia reference work, even one with nothing like Encarta's content, you should at least employ the basic features of the genre, chief among which are extensive cross-referencing and easy, powerful searching. The Australian Graphic Encyclopedia does not have either.

We're all for encouraging local developers, and overseas developers, and anyone else who produces good software. But that's the final criterion - is the software good? Our basic rule of thumb for computer reference works is simple - does it work as well as, or better than, a book? And as we said at the end of the June review, the Australian Graphic Encyclopedia doesn't. We look forward to seeing an improved future version.

What's wrong with CD32?

I's 25 years of age and own an A4000/040 with Vidi 24, OpalVision, CD-ROM, Lightwave and so on. I owned only "serious" software until two months ago, when I purchased a CD32. Like everyone who has test driven the CD32, I was thoroughly impressed!

I now have some reservations

about the machine and the software houses. Now that I was part of the gaming world, I bought a copy of the magazine "Edge". There was so much hype about the 3DO, Saturn, Neo-Geo and PlayStation platforms, and nothing about the world's first CD based 32 bit games console - the CD32.

Why?

Is the CD32 already an inferior machine compared with the others?

We all know it's software support that makes or breaks computers - with software houses focussing all of their attention and effort on these so-called "Super Platforms", will the CD32 be forgotten?

I'm a fiercely loyal Amiga user, and would not swear allegiance to anything else - but the Australian CD32 scene seems to be dead. Software's rare as chooks' teeth.

John Cooper

Ed: The dearth of CD32 content in games magazines has two simple causes. One, Commodore never sent any free machines to the mags, and that's par for the course if you want your platform noticed. And two, who the heck's going to get excited about a machine, even one with impressive specs, which isn't made any more?

And the CD32 is indeed not the top dog, technically, in the console world. The 3DO (not terribly popular either) can eat the CD32 alive for action games, and the specs for things like the PlayStation are astounding. But, of course, the CD32 is a real computer, sans keyboard and drives. No other console can have a keyboard and mouse plugged in, can be networked to "real" computers, can with the addition of an expansion box turn into a funny looking but fully functional CD-ROM equipped A1200.

With the creation of the new

Amiga Technologies company (see "The New Amiga", this issue!), the CD32 will be back in production before Christmas and may yet surge to prominence in the world market. As you say, software's the key - the Nintendo Gameboy's specs are pathetic, even compared to other hand-held games, but it's cheap and it's got tons and tons of games. If the CD32 can play on its unique qualities and also have a slab of software, it'll be a winner.

As regards machine loyalty - we think swearing allegiance to a computer is pretty silly, no matter how good it is. They're tools. Use the good ones. Live with the lousy ones if you have to. We do.

Business computer

I need a business program for my Amiga. Some of the things I'm interested in are fixed assets, custom form designing, general ledger, inventory, accounts, purchase ordering, cash management, budgeting, billing and so on. By IBM-owning friend has a program called DacEasy, which is excellent. I would like something similar. Can you help me?

Ed: It looks as if the best Amiga program for your purposes is EasyLedgers. It does everything you're after, with the exception of decent custom form design. Check out our review in the November/December 1994 issue to see if it's really for you.

Double publishing

Isn't it great that a decision has finally been made on the future of the Amiga? At least we're now one step closer to knowing if the platform will survive or not.

I'm writing to you for a couple of reasons. First, I must congratulate everyone involved with Amiga Review for keeping the magazine viable during the last 12 months - and the last ten years, for that mat-

ter. In this time you've kept up the quality of the magazine, improved on it, and given Amiga users a voice. Thanks.

PC Review magazine is now 100% better than it used to be. Even the covers have improved (in fact, I'd like to know some information about the cover on the May 1995 issue - looks great!). One way I think you can improve both magazines is by doing similar articles. Let me explain.

In the May issue of PC Review, there were two articles which could have been shown in both mags - the ones on laser printers and modems. I think these two articles could have been modified for use in both magazines, one showing the Amiga specific side and one showing the PC side. For people who read both magazines (like me) it would help give a broad overview, letting me know if I can purchase one item and use it on both systems.

Could we see future articles on Amiga retailers? This could be helpful for people looking for a specialist in a particular Amiga area. Could we also see articles on people in industry who use the Amiga? These articles are very popular in the UK and the USA, and there must be some users in Australia. What do you think?

Any more word on if ESCOM is going to keep R&D up on Amigas? I'm not really worried if they keep producing the old ones, but I'd like to see development of future Amigas. I think the idea of Amiga clones is wrong. We don't need multiple vendors all tweaking Amigas in a different way, so we end up with not all Amigas running the same software. This would kill the platform.

If ESCOM keep the R&D in house and offer a ready made package to manufacturers, this may be OK. The Amiga will never be the most popular platform, but

then neither is the SGI or SUN Sparc, so why does everyone want this for the Amiga. New, faster Amigas are needed in the next six months. Amigas can still out-animate many other systems, but for rendering grunt we need more power.

Any idea who the new Australian distributor for Amigas might be?

Ken Woodward, NSW

Ed: For more news on ESCOM's plans for the Amiga - via the new Amiga company, Amiga Technologies - see the feature in this issue!

The May 1995 PC Review cover (the battling printer-mechs) was created by Jarrod Pudsey, Lightwave master and render-dude extraordinaire. He's now our regular cover artist, and will be contributing various other graphic touches for both magazines. Basically, if you see a cool new rendered graphic in PC or Amiga Review, even in an ad, the odds are good that Jarrod's responsible.

We already cross-publish articles in both magazines, with alterations to tailor the content to the appropriate platform. The What's New in Modems article actually DID run in both mags - but the Amiga Review version came out in June, which you would have seen after sending your letter. If a piece is applicable to both platforms, it'll run in both magazines.

A brand new Amiga in six months is unlikely, although integrating third party products into existing machines should keep the current models on the pace. We at Amiga Review would rather wait than accept a machine and operating system railroaded through production. In the meantime, the old machines will be back in production, and the first major enhancement - 68060 powered A4000s, steaming along at 80 MIPS or so -

is planned for the very first production run. Thus far, ESCOM's licensing policy seems slanted towards people who want Amiga technology for other products - set-top boxes, for instance. In these applications, tweaks to the chipset don't matter, since the device isn't meant to function as a "Real" Amiga anyway. But we agree - unregulated cloning could be bad.

No Australian Amiga distributor has yet been announced; if Amiga Technologies follow their planned European distribution strategy here, expect to see low powered Amigas in chain stores, with the higher spec machines sold through specialist dealers.

Teeth-grinder!

Dear Mr Farrell, would you please stop using the word "snack", as in "using this piece of (software/hardware) is a snack"? The word you should be using is "snap", which is short for "a snap of the fingers".

"Snack" is a colloquialism which as far as I know is confined to a small area of NSW. "It's a snack" is on a par with other (sic) ockerist howlers such as "mink condition" (mint condition) and "one foul (fell) swoop". I hope that you will avoid this expression in future, if only because it causes at least one of your loyal readers to grate his teeth in despair (sic).

On some happier matters - I heard that one of the aims of Workbench 3.1 was to make it more compatible with older software. Is this true, and if so, has it been achieved?

I like the changes to your magazine, particularly the demise of the worthless Adventurers Realm and its ilk. I am beginning to look forward to the resurgence of the Amiga, as I believe many people around the world are unhappy with the machine they've currently got, and therefore I hope to be enjoying

your journal for many years to come.

Steven Hutley,
Hawthorn Vic

Ed: As far as we at Amiga Review are concerned, a snack is something that is short, sweet and simple, though probably not quite so brief as a snap. It seems an appropriate enough indicator of the simplicity of a task - "mink" instead of "mint", on the other hand, destroys the meaning of the phrase. So there.

Workbench 3.1 indeed does run some troublesome software better than 3.0, but some programs, like ye olde Professional Page, still misbehave. See the WB3.1 And Graphics Boards article this issue for more. Thanks for the compliments. We, too, hope to be around for a long time yet, now that the Amiga's being made again.

2000 Mailbox Shock Horror

I am possibly one of the few people who would write to you to say that I have NOT spotted an Amiga anywhere lately, except on my desk. The reason for this is that I am far too busy reading your wonderful magazine. I read somewhere, quite a while ago, that if you paint your Amiga black, it will perform better (not sure if it was in your magazine, but I'm fairly certain it was an April issue).

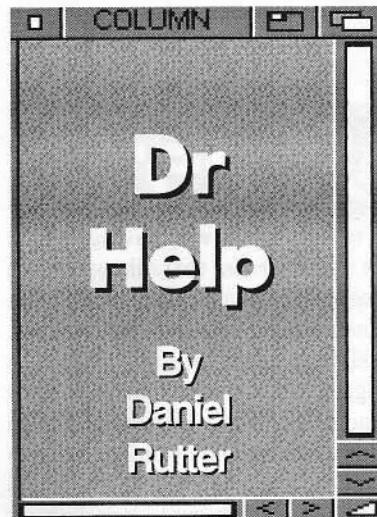
Anyhow, I did it to my A2000 - no improvement!

Perhaps you might be able to help me.

If I replace my letter box with my black A2000 and remove the 5.25 inch bay cover, will its performance improve to the extent that free copies of your magazine start arriving?

Joe Koovshinoff,
Norman Park Qld

Ed: No.



Expanding A600?

I purchased my A600HD for \$300 new. I've expanded it to 2Mb with an A601 RAM expansion and a second disk drive. On Workbench, it reports that I have 1.6Mb graphics RAM left - where is the memory going?

I would like to run two extra versions of Kickstart (1.3 and 3.x) plus the v2.x that I've got - would a Kickboard Plus unit do this for me, and do they make them for the 600?

Last but not least, is there an accelerator for the 600, and will a PCMCIA 4Mb RAM expansion work on my computer?

Keep up the good work, guys!

Peter Weuffen,
Moe, Vic

Dr Help: Your graphics memory (which is the only type of memory you have in a 2Mb A600) is being used to show you that Workbench screen, and to do all the other basic operating system handling any computer has to do in order to work. The RAM display at the top of the Workbench screen tells you how much RAM is available for programs to use; the more you do, the lower it gets.

You should be able to put a standard Kickstart switcher into your A600 - and you can even use Workbench 3.1, if you get the A2500 upgrade pack.

There is no accelerator for the A600. You're stuck with the 68000

processor. But you CAN use a 4Mb RAM card with no problems - just plug it in and you're off. Before you start pumping more money into it, though, step back a moment and ask yourself if it's really a good idea to try to expand this quintessentially NON-expandable, orphan Amiga. A second hand 2000 can be taken an awful lot further.

- 256 colour AGA screens are slow. The problem, though, is easily solved by the application of a large amount of money. Sell your 1200. Get a nice fast Amiga that you can put cards in. Buy a 24 bit graphics board. Use its Workbench emulation. Enjoy fast 256 colour mode. Problem solved, expense under \$3000. Bewdy.

Beautifying 1200

In your April letters section on page 17 there's a picture of a Workbench and in the bottom right corner there's a window titled GIF with small GIF pictures in it. What's the name of this program, and where do you get it?

Another quick question - every time I put a picture in the Workbench environment on my A1200, the picture's colour is incorrect, so I change the colours from 16 to 256 and the Workbench becomes very slow. Is there any way to overcome this problem?

Gary J McSweeney,
Aspendale Vic

Dr Help: The groovy looking Workbench in the April letters section is simply showing, among other things, a drawer containing some GIFs, with icons set up as miniatures of the pictures themselves - "thumbnails". I don't know how it was done, but if I were doing it I'd use Art Department Professional (ADPro), load the picture, scale it to an appropriate size, render with the right number of colours and then use the ICON saver to create the icon. If I was better at using ARexx and had a rainy afternoon to kill, I could even automate it and tie it to one button. Photogenics can now do this automatically, if you install the freely distributable NewIcons package too.

Your Workbench speed problem is endemic to the AGA chipset

1000 maniac

I still own an Amiga 1000 (I think it was the 63rd machine that Commodore sold all those years ago) but I have modified it along the way. It now has over 1Mb of RAM and Kickstart in ROM, running Workbench 2 and 1.3, switchable to disk based Kickstart. I have replaced the internal floppy once, repaired the monitor, rewritten PALs and reduced interference on the board because I believe the machine is worth keeping. I has been, and I might add still is, a great machine and well worth tinkering with.

However, it's getting more and more difficult to find information on this older machine.

I have several small hard disks. They're all ISA bus XT compatible 20Mb MFM drives. Can I adapt the NEC MFM D5126 drive or the Seagate ST-238R MFM drives to work with my Rev. 2A A1000, and if so, how?

Can you direct me to any other mods that could push my machine along a bit faster, or Agnus/Denise mods?

John Gazzola,
Nth Fitzroy Vic

Dr Help: Both of the drive models you list use ST506 interfaces. They are, like your computer, antiques; a drive the same size and weight today can easily store 100 times as much data and find it 20 times faster. And, given their age, they're not likely to be very reliable. But none of this matters,



because unless you're willing to dig back into the distant days of cobbled together pseudo-interfaces, you're not going to be able to find any way to plug them into your A1000. Crack them open and decorate your walls with the platters.

The only worthwhile improvement you can make to your A1000 is to stick a Phoenix board into it, bringing it closer to the capabilities of a "modern" Amiga. If you're into tinkering - and it looks like you are - feel free to scare one up and go for it. otherwise, save your pennies, buy a 1200, and put the A1000 on a shelf until it's worth something to a collector.

Making Memory

I've recently upgraded to an A1200 with a 40Mb hard disk, but am stuck with a problem. I have tried to store an "A1200 compatible" program on my hard disk, but the 1200 keeps giving me an "out of memory" message every time (my 1200 has 2Mb).

I've been advised to close a few Workbench applications and delete some files - I did so to no avail. I have over 20Mb of space on my hard disk but might need more RAM. I was told that I can get a RAM expansion card, but I don't know if that will solve my memory problem, or where to get a card. I would appreciate your advice. Basically, I'm an A1200 novice and need all the help I can get. Thank you in anticipation!

C. Martins,
Canberra ACT

Dr Help: The competence of whoever told you to delete files is dubious - your problem is not lack of disk space, it's lack of RAM. Since you don't mention exactly what program it is you're trying to run - application, utility, game or whatever - I'll give you some general RAM-saving tips first.

You can reduce your RAM usage by reducing the resolution and number of colours of your Workbench screen (using the Screen-mode program in Prefs), by shutting down commodities (look for things in your WBStartup drawer and move or delete them) and by closing down other applicaitons, if you've got any running.

Going a step further, you can use the boot menu (both mouse buttons while booting) to disable your floppy drive and PCMCIA slot (there's about 50K right there) and any other unnecessary devices, then boot with no startup-sequence (and hence no memory-eating Workbench) and run programs from the plain shell you get on startup. But for a novice, this may be a bit too tricky.

For a less fiddly but more expensive solution, you certainly can get RAM expansions for your A1200, from several Australian dealers, all of whom advertise in this magazine! Expect to pay less than \$450 for a card with 4Mb more RAM on it - and check out the 1200 expansions feature in this issue to see how cheap accelerators are getting, too!

By the way, it's possible that the software you're trying to run is failing for some other reason, but telling you it doesn't have enough RAM - the "out of RAM" message is the classic "fall-through error"; if no other error conditions the programmer thought of seem to have occurred, it's normal to assume that you're out of RAM, which is why the computer's behaving strangely. If the programmer was lousy or there's something odd about your configuration that he didn't think of, the out of RAM message could be caused by something quite different.

Colour in Amigaguide

I have a question regarding the

use of Amigaguide via the Multi-View utility. I was having a look at some of the text files that use Amigaguide and decided to write one of my own. By reading some existing guide docs I was able to figure out how to make buttons and titles for my Test.guide. I even got as far as understanding how to incorporate different text styles like Bold, Italic, and Underline into my document. To add different text styles to the document I used these combinations:

@{b} = Bold Text and @{ub} = UnBold (Returns the text to normal)

@{u} = Underline and @{uu} = UnUnderline

@{i} = Italic Text and @{ui} = UnItalic

My question is "Is it possible to add colour to my text?". In normal documents you can add colour by using escape codes. But when I tried to add escape codes to a Amigaguide doc they didn't show up. Could it be something like one of the combinations above? Can you help?

T. Grant.
Semaphore S.A.

Dr Help: As far as I know, Amigaguide doesn't support coloured text, beyond highlighting of links. You can hook it to other files, you can run programs from it, you can build whole interfaces out of it - but you can't make the text coloured. You can do coloured text in HyperText Markup Language (HTML) files - the format documents on the World Wide Web use - but that's a long way from being a hypertext lingua franca.

Address replies and suggestions to this column, care of PO Box 288, Gladesville 2111 - and, of course, feel free to send any problems you're having as well!

OS 3.1 and graphics boards

By Heiko Wynaen

When we first took a closer look at OS 3.1 in February's Amiga Review, Daniel Rutter answered his own question "Is it worth upgrading?" with "3.1's new features are good for some users, but it's not a mass market product."

He also pointed out that owners of graphics boards supporting the RTG standard could be the major winners from this Workbench upgrade. So what can you expect if you install the new Kickstart ROMs and the accompanying software on a big box Amiga with integrated graphics board?

A3000 Quirks

The machine I upgraded was an A3000 fitted with a GVP EGS board, certainly not the most user friendly beast when it comes to replacing ROM and RAM chips or getting to the accelerator slot [I hear you, brother - DR].

As if it wasn't bad enough having to strip everything down until just the motherboard's left at the bottom of the case, Commodore even managed to mix up the markings on it. At least on my version of the motherboard, the

socket stamped "ROM 0" had to be fitted with chip 1, while chip 0 had to go into the "ROM 1" position. Fortunately, after bad experiences over the years, I always note what's inscribed on parts before I remove or replace them. Components, like PC boards, have been known to contain errors in their labelling before.

While inserting the ROMs in reverse order shouldn't harm them or the rest of the machine, booting up would obviously be impossible. After refitting the drive platform, daughter board, expansion cards and closing the computer, powering up resulted at first in a black screen where Kickstart 2 came up grey, and a little while later I saw the familiar opening DOS window.

Faster booting

Under 3.1 the screen stays black until the user-startup file is executed. However, the whole process seemed to take less time in comparison with previous operating systems. This came as a surprise, as I expected any speed increases to be limited largely to

the graphics performance of the ECS chip set.

The good news became instantly apparent when running SysInfo and checking drive speeds. While the built-in floppy stuck to its normal snail's pace, the hard drive figure had jumped from about 750 Kb/s to over 1.1 Mb/s. Though the absolute values of these SysInfo results may be open to question, they clearly demonstrate that OS 3.1 at least provides better support for the A3000's built-in SCSI interface.

Amiga Intuition Based Benchmark (AIBB) testing failed to verify any serious speed increases except in the Beach Ball and SWhetstone categories, which take advantage of the computer's FPU, and even there the improvements were moderate, at just 18% and 17%. This is strange, because it became quickly evident that there are some definite speed gains in other areas than just booting time.

Accelerated menus

Menu selection and window movements on a 16 colour Workbench were clearly snappier, espe-



cially when multitasking. In fact, everything appeared to be very similar to the AGA equipped A1200 sitting next to my 3000.

However, an even more obvious boost was experienced when running Personal Paint in 16 to 256 colour modes on any EGS screen. While the graphics board had already allowed working in up to 8 bit under OS 2.1, the sluggish display of menu items and slow response to selections was extremely irritating. Moving from one menu to another often became a game of patience, as the mouse pointer appeared to be glued to its previous position for ages.

With Kickstart 3.1 those problems are a thing of the past, as menus and requestors pop up as instantly in 256 colour as in two colour mode. Despite the improved graphics board/RTG support though, there are unfortunately still a number of programs, for example Brilliance, which still choose to ignore any attempt to display them on anything but the Amiga's native screens.

Ups and downs

One of the older programs which was forced into involuntary retirement by Workbench 3.1 was GSoft's "The Answer", the Amiga's

first telephone answering application. It still boots, but operations like monitoring the line now fully engage the CPU, so the cursor remains frozen for several seconds at a time before jumping to the position indicated by the mouse and freezing again. As the Quit button is also rendered inactive, only a reset will free up the computer.

As usual, the most peculiar performance was exhibited by Professional Page.

In combination with KS 2.1 it worked relatively normally in the standard 16 colour Amiga mode. On the EGS graphics board, in contrast, it was necessary to switch to wireframe display mode, or even back to black & white, if any drawings (vector graphics) had to be added, or Pro Page would crash. It also crashed the moment I selected more than 16 colours.

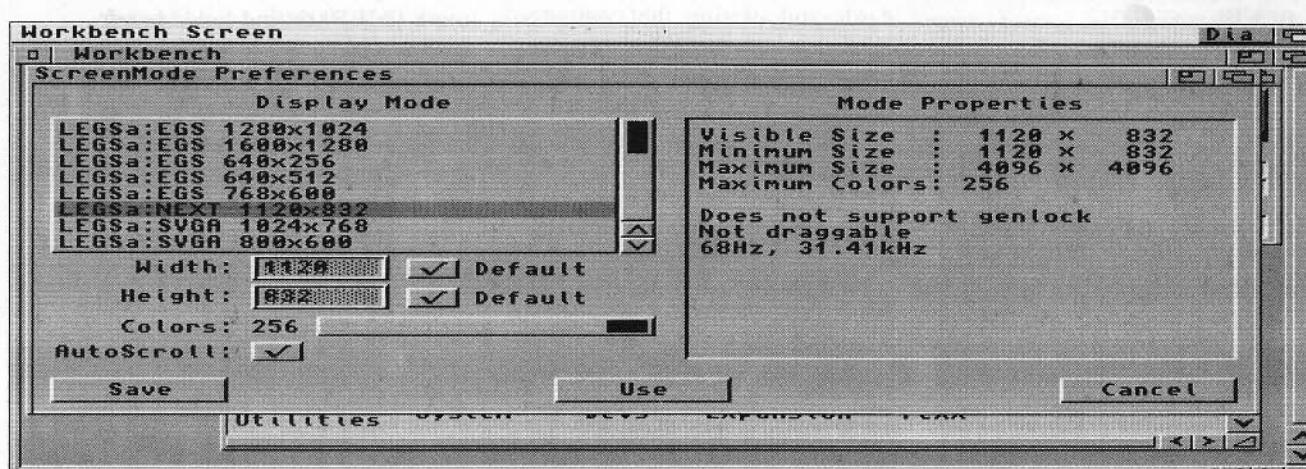
Now, under OS 3.1, Pro Page is at last relatively stable on the EGS board in all 256 colour options. In exchange, even the 16 colour Amiga mode now results in a scrambled screen, although black and white still works. So if you use Pro Page with 3.1, you have to work with just 1 bit "colour", or 8 bit if a graphics card is installed.

OS 3.0 applications

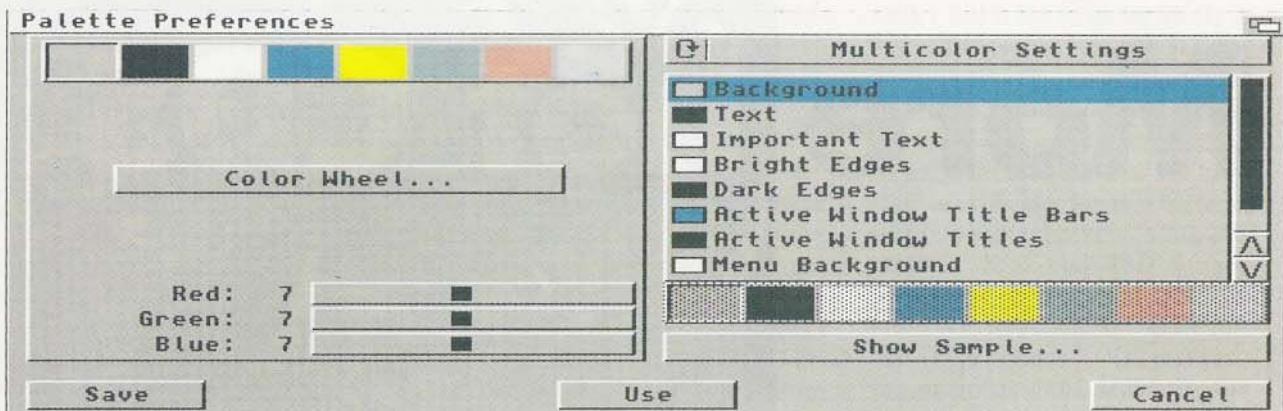
Another oddity is the performance of Multiview, the handy 3.x file "viewer" based on DataTypes. DataTypes are little translator programs, allowing software packages which take advantage of them to read any number of file formats, independent of their own read or load provisions. They make it possible, for example, for Personal Paint to open JPEG compressed graphics files, and they let MultiView view graphics or ASCII/Hypertext (Amigaguide) files, and play animations and even sounds.

DataTypes can theoretically be written for any file format out there, no matter where it comes from. Although MultiView's performance on AGA machines has never fully matched expectations, I was disappointed to find that on 3.1 it choked on most larger format JPEG files and everything else not native to ECS machines. It either takes far too long to display results, or it simply exits without giving any reason for its behaviour.

OS 3.1 users now also have the choice of using the "Color Wheel" of AGA machines for quick palette adjustments. In standard Amiga display modes though, this neat gadget must be specifically select-



Graphics board screen modes are now much better supported.



The palette requestor now offers a 'Color Wheel' option for pre-AGA machines.

ed by pressing a bar on the standard colour requestor.

Because of the restricted palette of pre-AGA machines, the screen filling wheel looks very coarse, although each of the individual colour fields offers additional, quite sufficient fine tuning with the hues shown in a separate cutout.

With the Workbench displayed via a graphics board, the colour controls provide genuine 8 bit detail. However, the on-screen dithering is still much coarser than under OS 3.0 on the A1200 or A4000.

Saving RAM

While graphics board owners will certainly appreciate the accelerated display speed of many non-dedicated (retargeted/promoted) packages, which on its own would probably justify the move to OS 3.1, they also get a considerable increase in free fast RAM as a bonus, without any additional hardware costs.

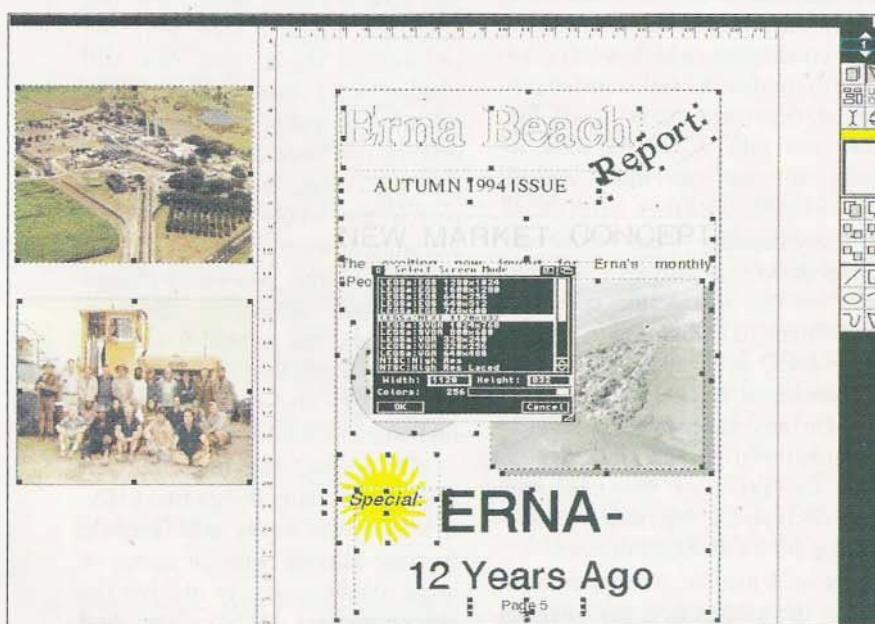
Under previous operating systems, you had to map the ROM contents (Kickstart) into fast RAM

for graphics cards like EGS to display Workbench and compatible applications in more than 16 colours. This locked up 512K of your RAM. Fortunately the new operating system with its built-in RTG support no longer requires the re-mapping of Kickstart, which means half a megabyte of extra RAM - unless you want the speed boost you also get from remapping Kickstart.

Conclusion

OS 3.1 clearly offers a number of advantages to many Amiga owners, but they come at a cost, and not just in dollars. Whether the improvements are important enough to justify the price depends on your specific needs.

When it comes to graphics boards, though - at least those complying with the RTG standard - the new Kickstart and Workbench represent an important step forward. Especially for A3000 owners with their rather restricted memory options (16Mb of hard to get and expensive ZIP chips on the motherboard, just four expansion slots), the gain of additional free RAM makes OS 3.1 a must.



Professional Page now runs in 256 colours on a graphics card screen, but this gain comes at the expense of 16 colour operation, leaving only black and white for unexpanded Amigas.

More hot CDS



By Daniel Rutter

I have to say, I relish those little air mail parcels from Germany. There's a regular stream of them, and every one contains one or more new CD-ROMs from Stefan Ossowski's Schatztruhe (Treasure Chest), far and away the most prolific producer of Amiga freely distributable CDs.

The latest parcel contained Aminet 6, the latest in the series of incremental updates to the invaluable Aminet PD series, and Magic Illusions, a disk full of single image stereogram pictures.

There's not much I can say about the Aminet series that I haven't already said in my reviews of the earlier discs; if you've got an Amiga and a CD-ROM drive, you need a pretty danged good excuse if you're not going to keep up with this series of CDs. They contain the hottest new Amiga freely distributable software and related gubbins, they've got a really really nice interface, and they're even cheap.

The Aminet update CDs come out about every three months, and they're compiled from the latest and greatest contents of the mighty Aminet Internet archive, the

definitive source of Amiga PD and shareware software. If you've got an Internet account you can grab new Aminet stuff the minute it's uploaded, but there are two things wrong with this approach. One, Internet accounts cost money, and Internet access can be irritating to make happen from the Amiga, since all the big service providers are tuned to Windows users. And two, with a 14,400 or even 28,800 Bps connection (which won't necessarily realise its full transfer potential, depending on net load), big files can take a LONG time to grab, if you get them at all (96...97...98...click).

Downloading the 320-odd compressed megabytes of new stuff on this CD would take you better than 70 straight hours with a fast 14,400 connection; real world figures could crack 150 hours easily. On any sane Internet service provider, you've just walked way past the price of the CD, and you've taken a big step towards paying for a CD-ROM drive, too.

Now, I use the Aminet archive to get the niftiest new stuff for the Hot PD column, but that doesn't mean I don't use the CDs to fill the gap. I've got to. Life's too short.

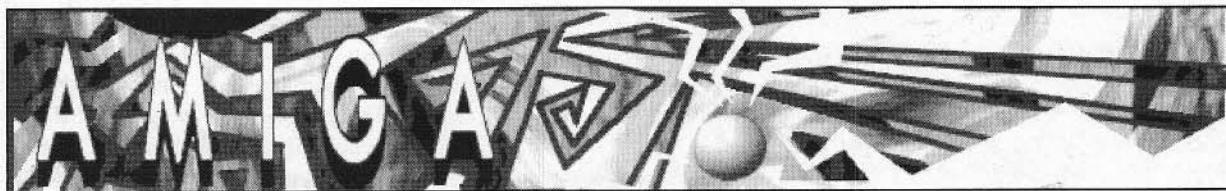
Better and better

Aminet 6 continues the proud history of the earlier Aminet discs, and also continues the recent trend in interface design - it gets more powerful and less buggy with every disc.

The current, smashingly simple Amigaguide-based interface was pretty danged good on Aminet 5, and now it's even better. You can still click things to view, play, run or extract them, you can still choose with things like games whether to extract them to hard disk or just have a play and see if you like them, and you can still search the whole shebang for a keyword at warp speed.

But you can also easily change the default extraction directory right from the extract requester, and there's still more flexibility - it plays MPG and Moviesetter animations with a click.

Of course, the interface still isn't perfect; silly things like LHA'd MPGs won't play with a click, because nobody with an ounce of sense ought to try to archive the precompressed MPEG data. And in amongst the thousands of files there are still a few that glitch up



for other reasons. But, generally speaking, a casual browser will be able to get into 95% of the software on Aminet 6 without having to exercise too many brain cells.

Another interface innovation is the "personal index", a system whereby you can easily add archive names to a personal list of fave files - this makes it easy for you to search for and flag interesting stuff, then extract it all in one session, or just keep the list handy in case you want quick access to a given program without leaving it cluttering up your hard drive all the time. You can sort and edit your personal index, too; it's simple and effective.

The last spiffy new bit in Aminet 6's presentation is the Clones function, which in my personal opinion approaches magic. Say you want an icon for something on the Aminet disc, but you don't want to use all the hard disk space a real installation would take. Now, if the thing, whatever it is, runs, displays or plays OK from the Aminet disc, you can use the Cloner to create a weeny little executable file and icon, total size about 3K, which when double clicked automatically finds the file on the Aminet disc, extracts it, runs the program, waits for you to exit and then deletes the program again. Presto. Again, it's not perfect and it doesn't work with every one of the 4000-odd files, but I think the compiler, Urban Muller, deserves a big round of applause for this one.

What's new?

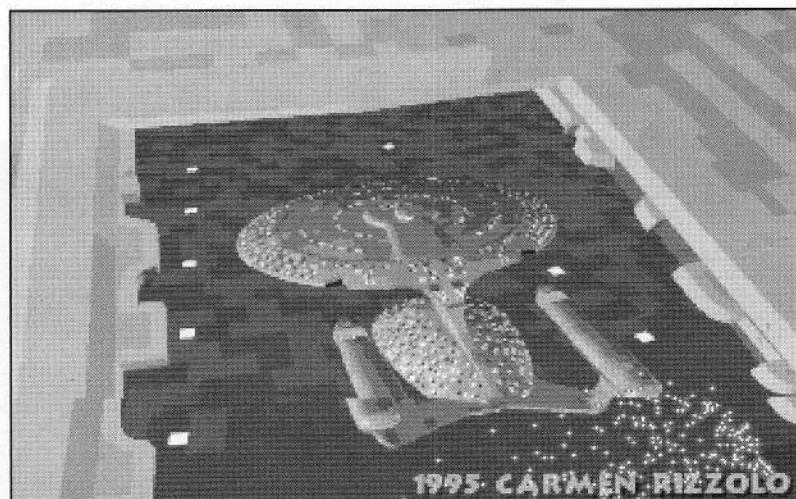
This disc's a biggie for new stuff. Practically everything on it's

not been seen on an Aminet disc before, but not all of this new stuff is actually FROM Aminet; sure, there's 520Mb (once you decompress it) of new Aminet stuff (some 1765 archives), but there's also more than 280Mb (compressed) of demos - around 1800 of the suckers!

Demos are the big focus of this disc, besides the usual new Aminet stuff; Aminet 5 had all the Aminet games, this disc has all the demos and then some. Intros, Euro-demos, AGA demos - you name it, it's here, and it may run OK from the icon - though considering the hardware-pounding nature of the

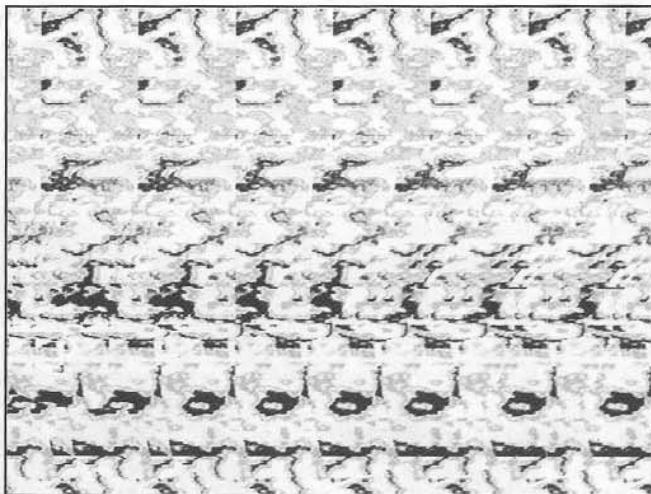
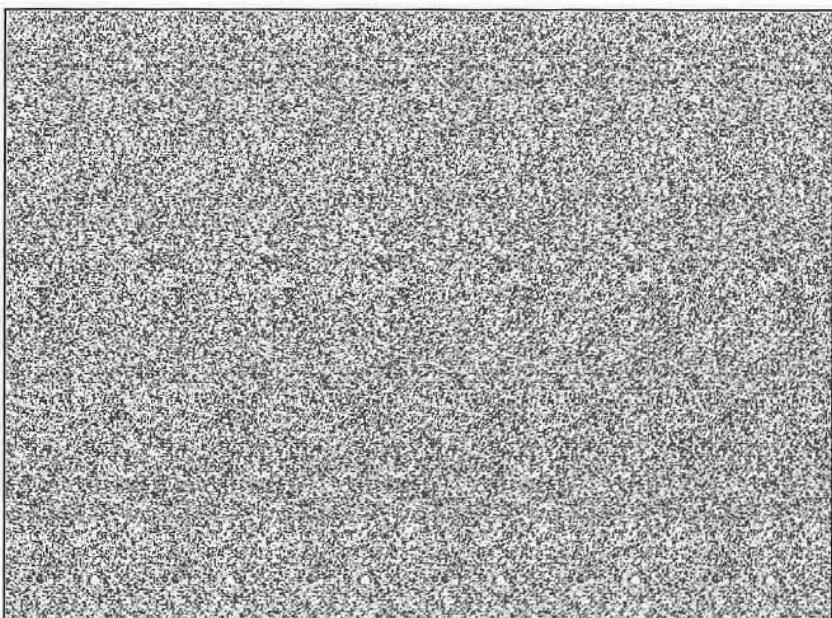
coding in most demos, some manipulation of ye olde Degrader program may be required on machines not matching the spec of that of the coder. Oh, by the way, Degrader's on the Aminet disc too.

Lazy thrillseekers and CD-ROM reviewers are, as always, aided by the provision of a Best of What's New selection, listing whatever particularly turned the compiler's crank; for the unedited version you can view all the new files by date or directory, and populists can see the most frequently downloaded files. Naturally, you can also just browse all the contents, regardless of newness.



1995 CARMEN RIZZOLO





Absolutely fabulous

I have absolutely no reservations in recommending this CD to every CD-ROM owning Amiga user. It is the best yet of the already excellent Aminet series, it doesn't cost much and it'll give you the warm, fuzzy feeling that whatever the heck it is that some oddball program wants in order to run, or whatever weird utility you need to fix problem X, you've got it right there on your desk, and you can find it in 20 seconds.

Magic Illusions

Magic Illusions follows the lead established by previous Schatztruhe picture discs - the same pictures in different formats and resolutions. It works with Amiga and MS-DOS or Windows machines, and all of the images are provided in 1024x768, 640x480 and 320x240 resolutions in BMP, GIF and IFF formats - so you actually get nine different versions of every picture.

Along with the pictures, which of course display from icon or can be viewed through a non-Intuition

but quite usable little indexing system, you also get stereogram building software for Amiga and PC. There are eight separate SIRDS generators provided for the Amiga, along with plenty of sample depth pictures (the images which, combined with random dots or a textured background, are manipulated into the braitwisting Magi Eye pictures we know and love) to get you started.

Some of the included stereograms are the traditional random-dot style - true SIRDS - but many use repeated textures instead. And since they've all been snarfed from the public domain, not specially generated for the disc, some are a bit dud. Hey, there are 210 of them. Live with it.

The pictures - even the dud ones - are all 256 colour images. If you've got an AGA machine (or an SVGA equipped IBM compatible, for that matter) then this isn't a problem, but on older ECS machines the pictures will be rerendered as HAM6 on the fly. They're still viewable, but they're fuzzier and small detail turns to mush. I'm writing this review in the early hours of the morning, and let me tell you - CLEAR single image stereograms are eye-damaging enough at this hour; blurred HAM6 ones I can do without.

If you're a SIRDS freak, this disc is for you. It's easy to use, it's got tons of images, it's got all the bits and pieces to make your own - even including a pile of sample textures should you wish to get away from purist SIRDS and make a more colourful creation - and, on an AGA machine, it looks terrific. On ECS, though, you'd have to be a die-hard SIRDS fan, or be ready to convert images to 16 colours in another program for clarity. Otherwise, you too can have a headache just like mine!

Contact Amadeus on: (02) 651 1711. Aminet 6 is \$35.

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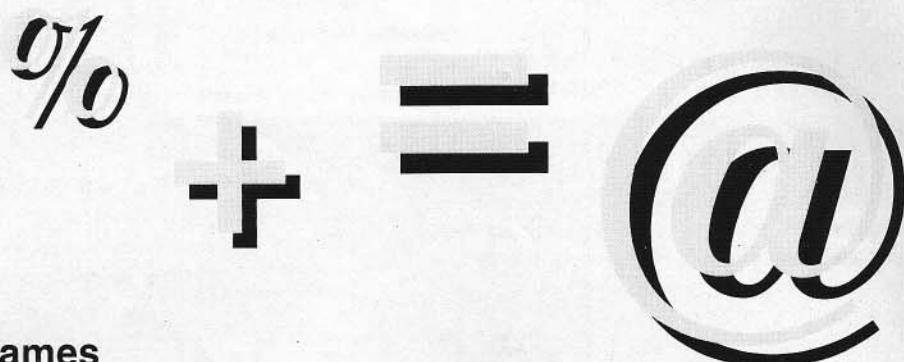
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Software
Review

TurboCalc v2.0

**By Owen James**

Amiga users have long lamented the lack of a serious spreadsheet package on this machine to compete with Excel on the PC and Mac. Gold Disk made an effort with ProCalc, Softwood is trying with their soon to be released Final Calc, but for now TurboCalc is

looking more and more like a serious contender.

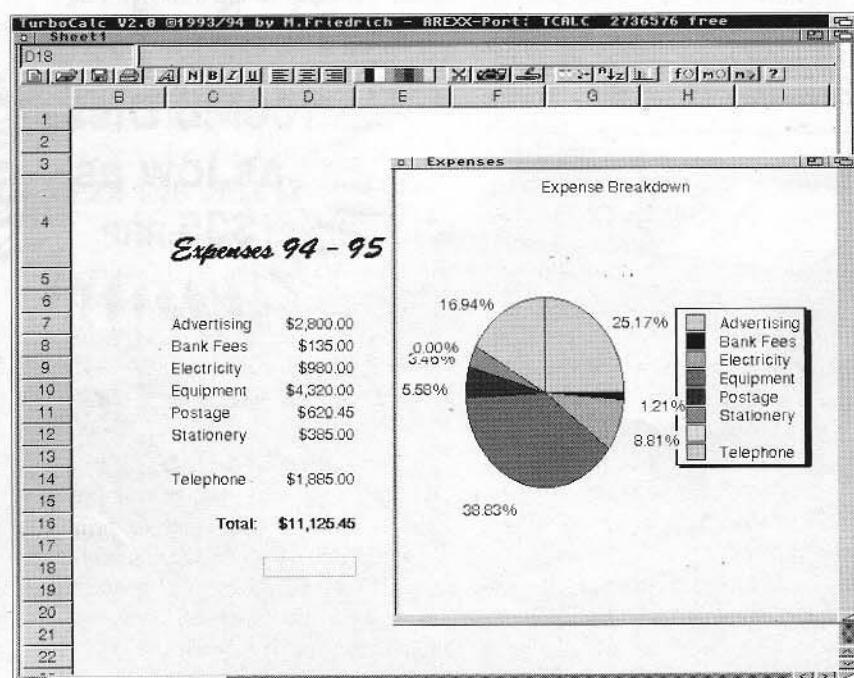
For the uninitiated, a spreadsheet is a powerful calculation tool. Unlike the five dollar calculator which may grace your desk now, a spreadsheet is capable of making several calculations at once

and can store data in much the same way as a database. Information can be compiled, sorted, calculated and even graphed or charted based on formulas you provide. Practical applications include use as an electronic cashbook, an invoice creator, or for plotting charts for importing into other packages such as a word processor.

Stefan Ossowski's Schatztruhe have just released version 2 of TurboCalc, which out-features all competing Amiga packages.

This is a noteworthy package. It's got a large range of formatting options, a macro language with support for over 120 commands, and the ability to import directly from MS Excel, Professional Calc and several other popular formats.

When you first start TurboCalc V2, the most striking feature is its general attractiveness. Plenty of colour, proportional fonts, and a tool bar with a strong resemblance to most of the better word processors makes this look like a very different spreadsheet, at least for the Amiga. The user interface has a nice 3D look and feel to it. Not at all like earlier efforts, such as Maxiplan.



TurboCalc has lots of chart options.

The horizontal toolbar has the usual array of familiar icons - print, save, select font and font style, text alignment, colour, even cut, edit and paste.

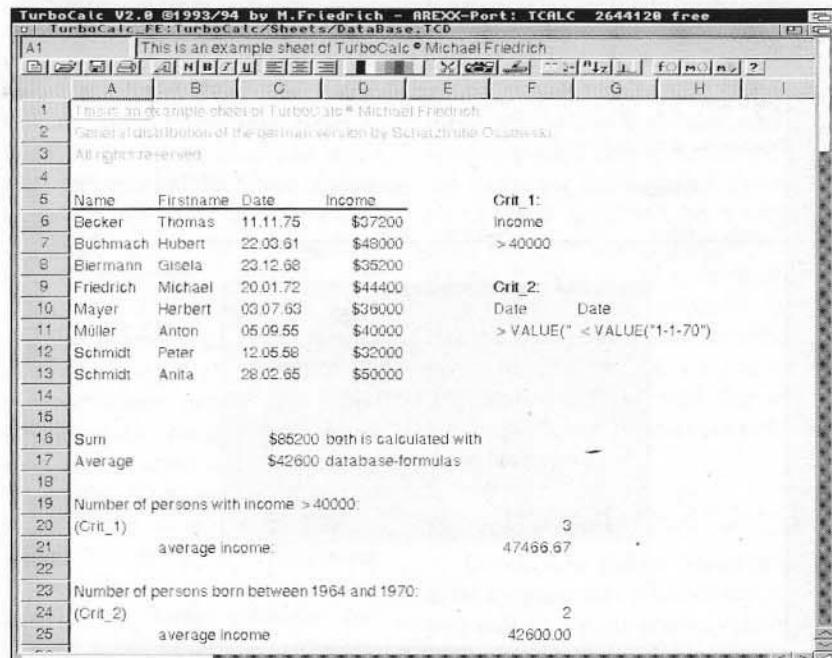
TurboCalc V2 has a database manager included. Each row of a selected range becomes a record, and each column represents data fields. The first row of a range must contain the names of the data-fields. This may be Name, Address, Suburb, Postcode, etc., or perhaps a series of stock parts. After selecting the range you'd like to include in the database, select Data-Define Database from the menu and you're ready to call upon or manipulate the data in a variety of ways.

You're not limited to one database definition per sheet. Each database may be given a name and called upon later.

TurboCalc supports several chart types, including column, bar, line, pie and points. Once you've selected a chart type, another requester will give you further options, such as a 3D appearance, whether to overlap portions, the gap between portions, the patterns and colours to use, and titling information. Once these parameters are selected, the chart will appear in a scalable window. While the chart, or charts, are displayed on screen you're free to carry on altering the figures on the sheet behind them, even modifying the figures that the chart has been created from. When you're finished, simply select Refresh and the charts will be re-plotted using your changes.

Charts may also be hidden. To redisplay a hidden chart, just select its name from a requester of available charts.

Of course, charts may be printed or saved for use in other programs. TurboCalc can only output to an IFF-format file, however. This will import into any word



A screenshot of the TurboCalc V2.8 interface. The title bar reads "TurboCalc V2.8 ©1993/94 by M.Friedrich - AREXX-Port: TCALC 2644128 free". The main window shows a spreadsheet with data in columns A through H. Row 5 contains the headers: Name, Firstname, Date, Income. Rows 6 through 13 contain data for 8 individuals. Row 14 is blank. Row 15 is a formula: =Sum(A14:H14). Row 16 is a formula: =Average(A14:H14). Row 17 is a formula: =Sum(A14:H14)/8. Row 18 is a formula: =Count(A14:H14). Row 19 is a formula: =CountIf(A14:H14, >40000). Row 20 is a formula: =AVERAGE(A14:H14). Row 21 is a formula: =AVERAGE(A14:H14). Row 22 is a formula: =CountIf(A14:H14, >=1964 & <=1970). Row 23 is a formula: =AVERAGE(A14:H14). Row 24 is a formula: =AVERAGE(A14:H14). Row 25 is a formula: =AVERAGE(A14:H14).

Easy information manipulation with the built in database manager

processor or paint package, but it would have been nice to have the option to output to a structured format to allow for jaggie-free resizing.

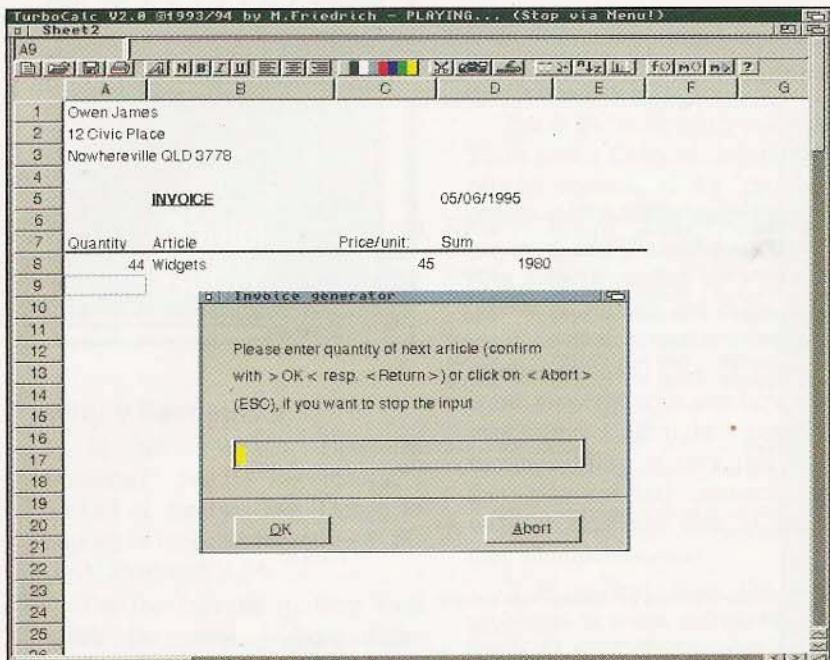
TurboCalc's macro programming instruction set is quite extensive and accessible to even the non-programmer. Macros allow the user to automate almost every function in TurboCalc, and you can use them to produce a user interface to a sheet. For example, you could make a worksheet that automatically gives the user a requester asking for an invoice number, product details and costs, calculates the value of the invoice and then prints it. The user sees little of the spreadsheet working in the background, only a series of requesters.

To demonstrate some of the uses and power of TurboCalc's macro language, included is a game of "Four in a Row". Playing it, you'd hardly realise this is just a clever spreadsheet macro.

Macros may be recorded directly from a user's mouse clicks and keyboard controls, or by using a simple programming language. The command set for creating macros is the same one you use to control TurboCalc via ARexx.

You can also set a particular macro to run as soon as TurboCalc loads - maybe a macro to gather and compile information from yesterday's takings in a business environment, or something as simple as setting up a particular combination of screenmode and colours and presenting a list of other macros to run. There are plenty of possibilities.

TurboCalc is capable of producing some very attractive printouts, thanks to its graphic print mode. Rather than printing straight text characters from your printer's own internal typeface, you can select the graphic mode to print a reasonably accurate rendition of what you see on screen, fonts and all.



Macros let you make TurboCalc very easy to use.

This is far slower than text mode, but for a final presentation copy it's a useful feature. Sadly, however, there's no option to print to Postscript. I also had some difficulties in getting correctly sized fonts. I hope these issues will be addressed in the next release.

TurboCalc is a reasonably fast and very attractive package. The manual, while very informative, could have been translated better. While TurboCalc's still no Excel, it's easily the best spreadsheet package so far for the Amiga. Version 3 is already available in Germany, and an English-language version is most likely not far away.

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Internet Movie Database

By Daniel Rutter

One of the most amusing pieces of hour-eating software I've played with is Microsoft's Cinemania, for multimedia-equipped IBM compatibles. Tons of movie, actor and director information and video clips, all cross-referenced. A time-waster's delight. But not available on the Amiga. So I was rather pleased to discover the Internet Movie Database (IMDB) on the Meeting Pearls 2 CD-ROM (which I reviewed last month), set up so you can run it from a single icon - no configuring, no fuss. You do need to have MUI, the Magic User Interface, installed, but that's on the CD too.

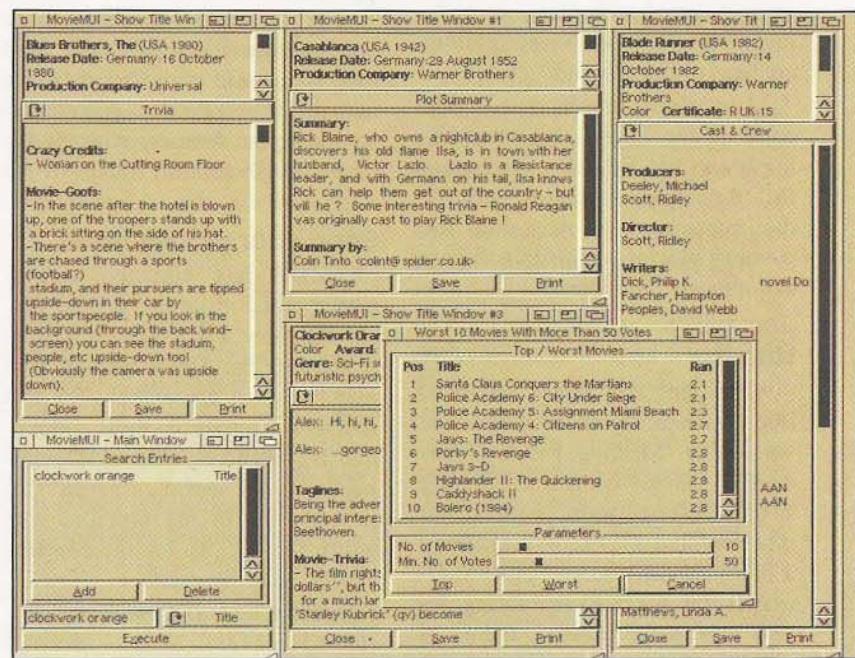
IMDB is, of course, available to those lucky enough to have Internet accounts, but this gives you the database as it was on the 27th of January this year with faster access and less expense.

Addictive interface

Using the system is simplicity itself. You can search for movie titles, actors and actresses, producers, directors, writers, composers, photographers, or indeed just about anything else - and if you're looking at a filmography for an actor, a double-click on a movie name will

bring up the movie's details in a separate window. Likewise, clicking someone's name from a movie's window gives you their details. Practically every entry has a cast list and other basic details. Many of the movies also have plot summaries, and extras like trivia lists and quotable quotes. Many also have a one to ten rating, compiled in democratic fashion from the opinions of many voters.

There's a top/worst function, which is fun to play with. You choose how many movies you want to see and how many people have to have voted, and you're shortly gazing at a list of must-sees or stinkers. If you set the minimum number of votes to 50 or so, you'll get a decent idea of which movies are worth seeing and which suck, but there are some peculiar tastes out there in Internet-land (in my



humble opinion, of course). Set minimum votes to 1 for fun; now you'll see all the movies that some solitary turkey out there thought were perfect or execrable.

The actual content of the Database reflects its informal construction. This is no carefully researched, meticulously assembled commercial offering - it's just the opinions of lots and lots of private citizens stuck together and indexed. The large pool of contributors is relied upon to keep the content accurate - which it seems to do very well - but on the downside it means many less notable movies don't get much detail - just a name, year, director and cast list, if that. Movies that were very new when the database was committed to CD - Judge Dredd, Batman 3, Die Hard 3 - also get this treatment.

IMDB isn't strictly limited to cinematic productions - actors who've been in TV shows get credits for them, and there are entries in the database for a lot of TV productions. Again, though, they're usually skeletal cast-and-crew jobs. Some short films get entries - Nick Park fans will find all three Wallace and Gromit animations listed with plots but nothing more - true art-house oddities are hard to find, though.

The whole interface is highly conducive to pointless, entertaining browsing. Beware - if you use IMDB to find a video to rent for the evening, you may kill the evening playing with the software and alienate your friends.

Huge!

The thing that makes IMDB so impressive is its sheer scale. The version on Meeting Pearls II has 41,403 movie listings, containing 110,247 act-persons, with 8,948 directors and 11,992 writers. Only 2,688 movies score plot summaries, but 6,128 have a rating. As you may have guessed, there's a

database statistics function that tells you all this stuff; I am insufficiently dedicated to my job to count it all by hand. The real numbers are likely to be slightly lower, as some actors and movies are accidentally referred to twice (different name spellings, typos); the database structure doesn't suffer, though, as all of the dud listings seem to be correctly connected to everything else and not lead to dead ends. In any case it's One Mother Of A Lot Of Movies.

Slow!

The access speed of IMDB from CD is nothing to write home about - this version is apparently optimised to work from hard disk, not CD, and I performed some finger-drumming using it from my triple-speed NEC drive. However, when you compare the length of time taken to find data on the CD with the wait to find it in a book, there isn't much in it. The only real difference is that when you use a paper reference, you spend the time poring over the index and then leafing through the pages. With a computer system, you just type and then wait.

For far better speed, though, you can sacrifice 26Mb of hard disk space and copy the database on over. If you do this, you can also update the database with the Internet-distributed diff files.

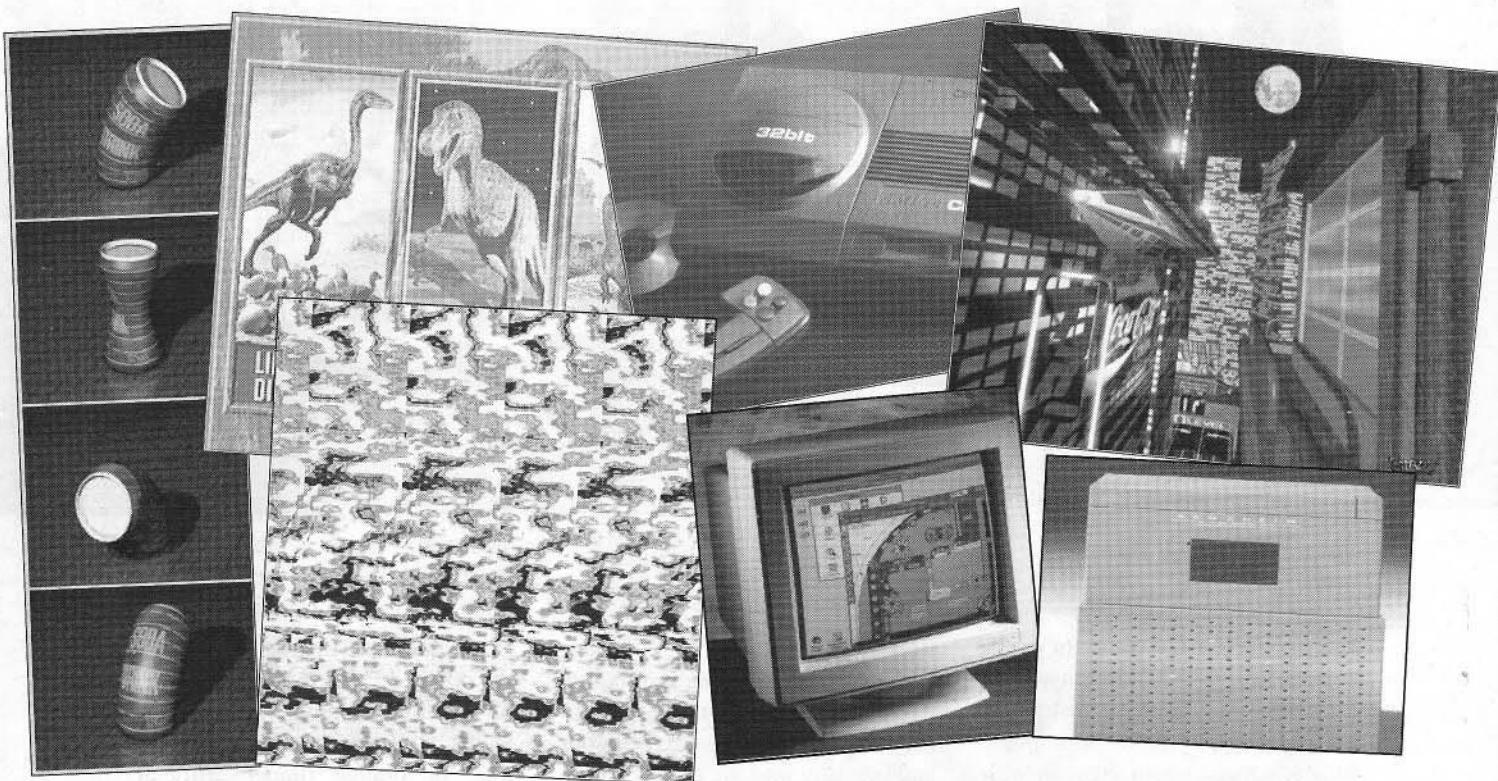
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IMDB has attracted considerable praise from the people who should know. For example, Empire magazine, the UK's leading film mag, said in December '94 that IMDB is "one of the most comprehensive archives of movie information in the world". I agree. This program is, in my opinion, well worth the \$49.95 for the Meeting Pearls 2 disc by itself.

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Making the GRADE

By Heiko Wynen

Any decent paint program offers a graded fill option nowadays. Unfortunately, many of us restrict its use to just what the name implies: filling shapes in your artwork with beautiful colour flows.

There are, however, occasions when smoothly tinted screens (or smaller, limited areas) can be successfully employed for retouching photographs or correcting video footage.

The impact of a gradient depends largely on the position of its start and end colours in the spectrum. The farther they are apart, the more colourful the result, although with a limited number of hues displayed on screen the fill may develop clearly visible banding.

It is therefore advisable, under most circumstances, to choose the two extreme colours from the same neighbourhood of hues. The resulting fills can greatly enhance the natural look when applied in special effects and the retouching of digitised images.

Nature's shortcomings

In the world of photography,

film and video, filters are a basic necessity to compensate for mother nature's shortcomings. Natural light continuously changes colour and intensity, and the range of fluctuations is simply too great for our present image recording technology to cope with directly.

In everyday life, the human eyes and brain keep us unaware of most of the more subtle changes. This means only a minority of people will consciously notice the strong bluish cast affecting the purity of all colours around the middle of a sunny day. The mind constantly compares reality with what's stored in our memory. Experience has taught us that the leaves on most trees are green, so we will normally perceive them as being that colour even if the light has turned them a lot bluer.

Only when the changes exceed a certain threshold, for example on an overcast day and at dusk or dawn, do we really take note of the differences in colour and intensity.

Cameras record the conditions very much as they really are at the time. As pictures are an abstract image of reality, your mind fails to make the right links and draw from

our experience. Instead, it assesses the object relayed through our eyes on its own merits. This means leaves and grass suddenly look blue or orange (under artificial lighting) and the sky we thought was azure has turned milky or even yellowish.

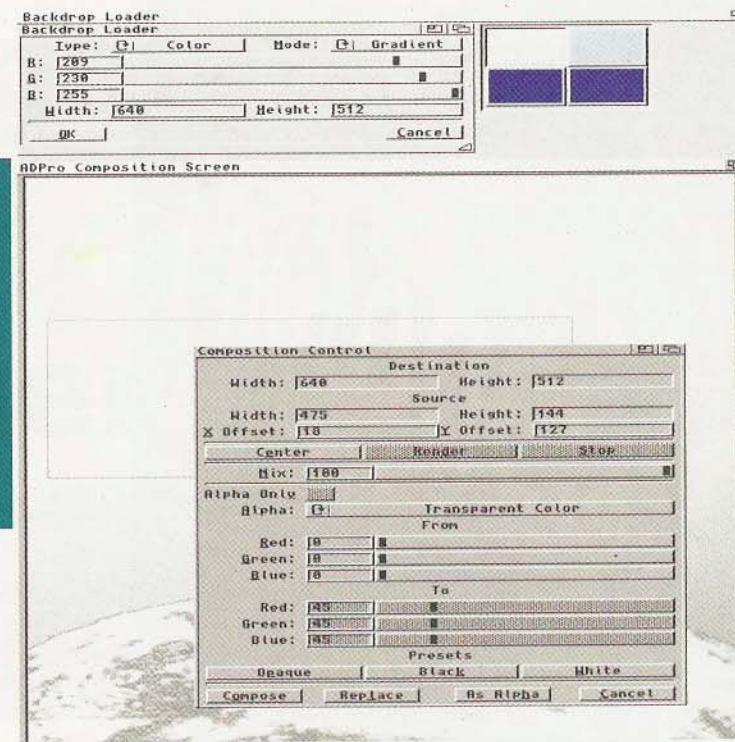
One way to make film or video images more closely match our perception of subjects and scenes is by using filters during shooting and following that up with other retouching techniques during processing, as required.

Digital treatment

A more convenient and often more precise solution is using a computer to apply necessary alterations and corrections before printing or recording an image.

Where it once took hours in the darkroom, handling messy chemicals and getting frustrated, computer processing is clean, quick and much more versatile. Best of all, it's performed under normal lighting conditions.

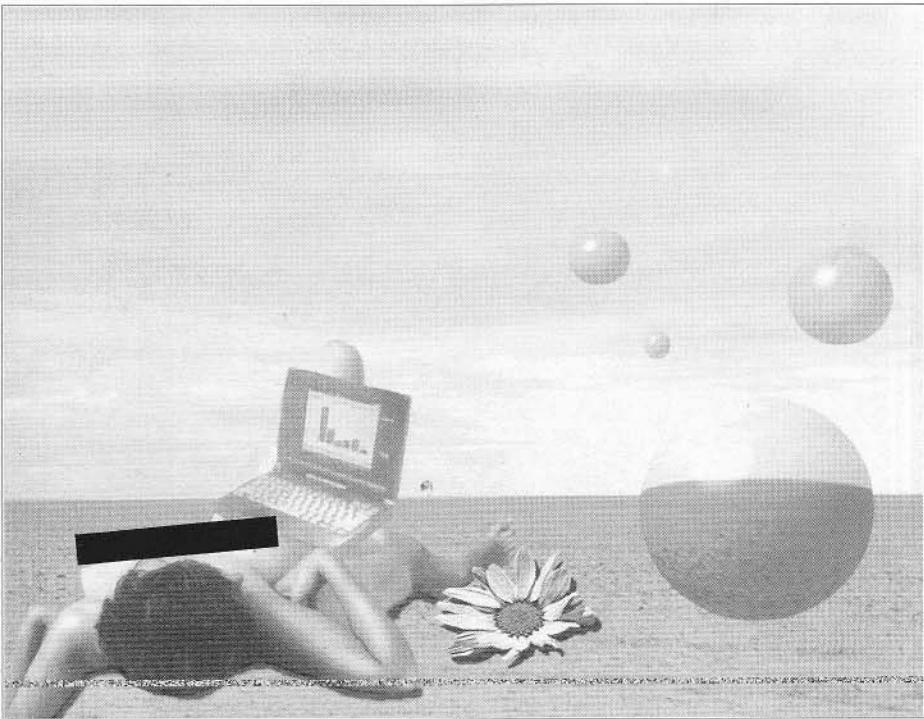
While many filter effects are possible with traditional methods, graded colour flows are clearly the



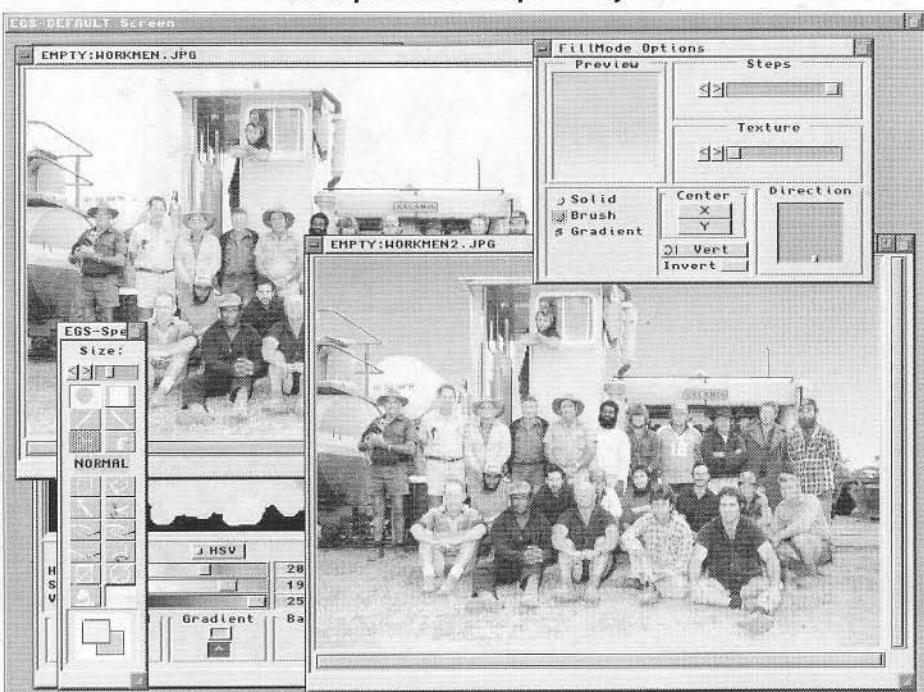
ADPro, the Amiga's bread and butter image processing package, offers a backdrop creator with a practical gradient mode (top). In combination with the powerful compositing feature (bottom), you can produce striking presentation graphics.



A typical example of a "created" graphic employing a gradient background (in contrast to a scanned/digitised picture).



Gradient fills are predominantly employed in 3-D programs, but they can equally well add a spatial appearance to selected features in otherwise two-dimensional images, especially when combined with partial transparency.



The sky in the original, scanned image (top left) looked pale and featureless. After applying a linear graded fill, with the aid of the "Magic Wand" tool, the picture looks much more like we would expect it to look (bottom right).

it's always possible to manually change the appropriate pixels to a fixed shade which may then be filled. To achieve a natural look, a two to three pixel wide area on both sides of the border line with neighbouring areas should be slightly blurred. Again, depending on the software, this may be possible to achieve using an automatic tool or require manual intervention with the smear or smooth facility.

It could be argued that overlaying a solid colour, blue in this example, at an opacity factor of about 30% would achieve the same effect as an elaborate gradation. In practice, however, the result remains dull and rarely looks close to the real thing, unless dominant features like large, towering cumulus clouds occupy part of the area. On the other hand, impressive cloud formations usually mean the original image isn't in need of improvement anyway, at least as far as the sky is concerned.

As already mentioned in the introduction, graded fills work best when they cover only a narrow range of hues, especially in digitized images. For the sky you should choose from a slightly lighter to somewhat darker shade of what you perceive as "the natural look".

Mind the shadows

To imitate nature as closely as possible, it is crucial to adapt the actual flow of the gradation to the direction of the original lighting in the scene. Unless the shadows in the picture are very long and deep, pointing to a time close to dawn or dusk, it is best to have the colours radiating from their brightest near the horizon in the scene towards darker shades along the edges (vertical grades are superior to radial gradients in a case like this). This is very much in line with the real conditions between about 10AM



“Computer processing is clean, quick and much more versatile.”

and 3PM on a sunny day, because of the light's natural polarization and the haze in the atmosphere. If the extreme colours have been chosen carefully, the picture will look very similar to one taken with a polarizing filter.

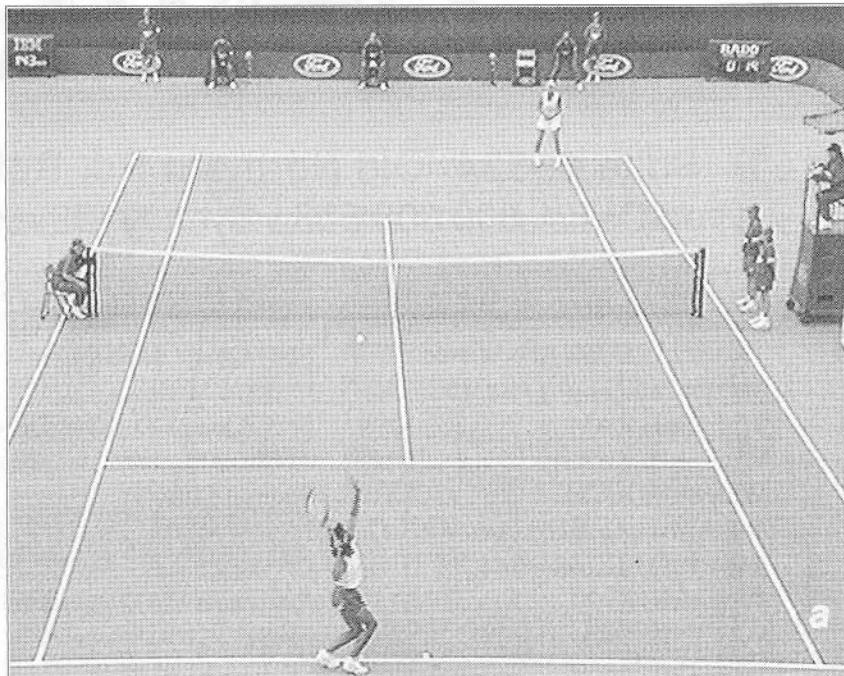
In comparison, if the shadows are long, the brightest shade of the fill should be near the top of the frame and towards the side where the sun was during the taking of the image. In this case, a radial gradation is normally more appropriate.

Foggy conditions

Another application of gradients, especially suited for video productions, are mood creating screens faking conditions like night or fog. For this brief discussion of the subject, let's look at the latter.

In real life, strong mist progressively reduces visibility with increasing distance from the viewer. This means our graded fill must ideally range from fully transparent to 100% opaque.

There is, to my knowledge, no feasible way to achieve this with the required smoothness on any desktop machine available today, although some new software packages like Photogenics now offer fill modes simulating variable transparency levels in a limited way. Nevertheless, if you've got a genlock with manual transparency



By overlaying a graded screen, based on a carefully selected colour range, onto the original video footage (a) via a genlock with incorporated fader (transparency control), special moods like these foggy conditions (b) can be artificially created.



adjustment, some very convincing results can be achieved. To accomplish the most realistic feeling, you need to produce a full overscan

screen with a linear, vertical gradient ranging from pure black to light grey or white. By slowly varying the transparency control

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on the genlock, the strength of the effect can be changed until it produces the intended mood.

The dark shades need to be along the bottom of the picture, where they will only affect the apparent brightness of the scene, which resembles looking straight down at the ground in foggy conditions. The middle and top areas of the image, which are naturally associated with more distant details in our field of view (a portrait would obviously be a very poor choice for this effect), become increasingly affected by the ever brighter levels of grey.

Along the top edge, where the most distant points in the picture should normally be, any details will have lost most of their initial colour and look rather faded.

To our eyes this appears quite real, which means the video footage for, for example, a detective story set in nineteenth century London could easily be shot under an overcast sky in a suitable area of an Australian city. The foggy conditions can easily be added afterwards by simply overlaying a suitably graded screen during post-production.

Small detail

As gradients are a basic tool for simulating three-dimensional space in programs like Imagine and others, they can also prove handy for restoring lost spatial information or adding new features to still and moving pictures.

For example, if a small detail in a photo, like a white doorknob, has accidentally been overexposed, it will resemble a flat, white disc. If the rest of the scene, let's say a dimly lit room, looks accurately reproduced, you could attempt to burn-in some of the lost detail in the darkroom, or with the appropriate tools in a photo processing software package (unfortunately

only available on PCs and Macs, not the Amiga), although it will more often than not prove a futile effort.

A much easier and more natural looking option is overlaying the bleached disc with a gradient filled circle of the same size. The radial gradation would probably range from full white to a light grey / off-white or any other hue, depending on the ambient light's colour. The position of the brightest spot (highlight) must be carefully positioned, according to the location of the most important light source in the room, which should be a simple task with the direction controls offered by more sophisticated graphics packages. Such software will also allow the blurring of the circle's edge to let it blend more naturally into its surroundings.

A number of programs, including almost forgotten favourites like Brilliance, offer a one-click automated feature for applying spatial gradient effects to standard geometrical primitives.

Conclusion

While many Amiga owners have some quite powerful software on their hard or floppy disks, most of us fail to explore its full potential. We're happy with the functions laid out in the manual, but don't seem to have the time to try some new approaches.

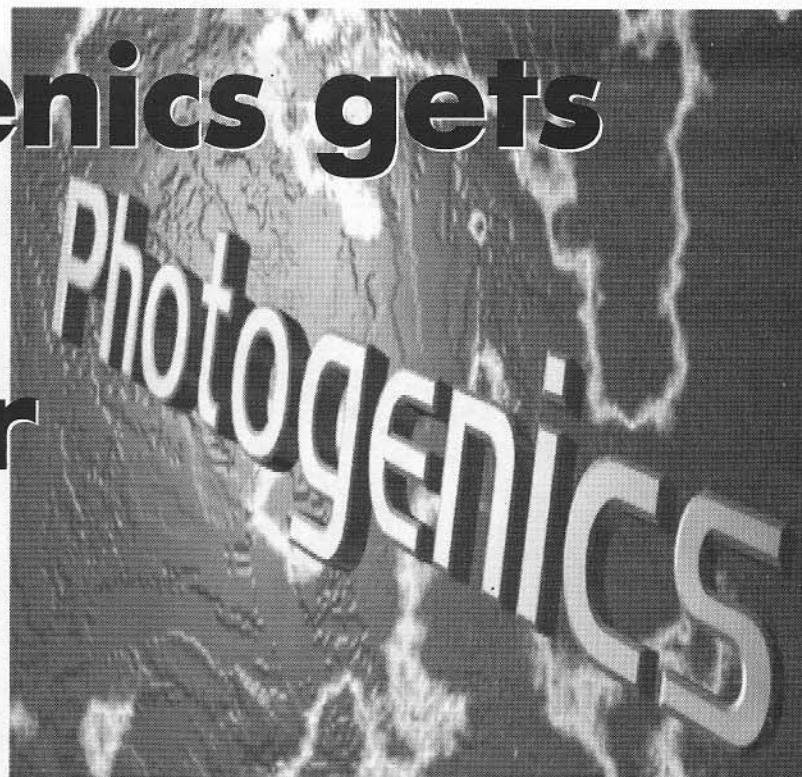
The graded fill tool, offered by most paint and draw programs, appears to be one such option limited mainly to use in basic presentation graphics or 3-D effects. It is by no means the only underrated facility which many of us don't seem to know enough about.

Gradients, like macros, are too often simply used along the lines the manual told us. Maybe it's time to look for some of our Amiga's less widely tapped powers.

□

Photogenics gets its act together

By Jarrod Pudsey



In the April '95 issue of Amiga Review I explored the creative alternative in Amiga image process-

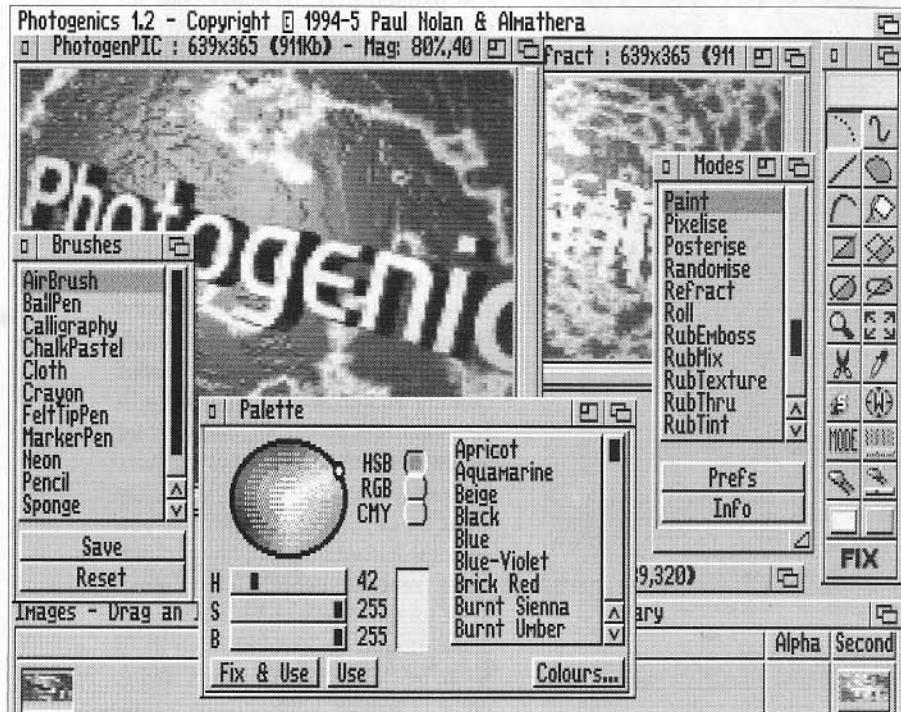
ing, Photogenics. Now Almathera have released version 1.2, improving the package in some much

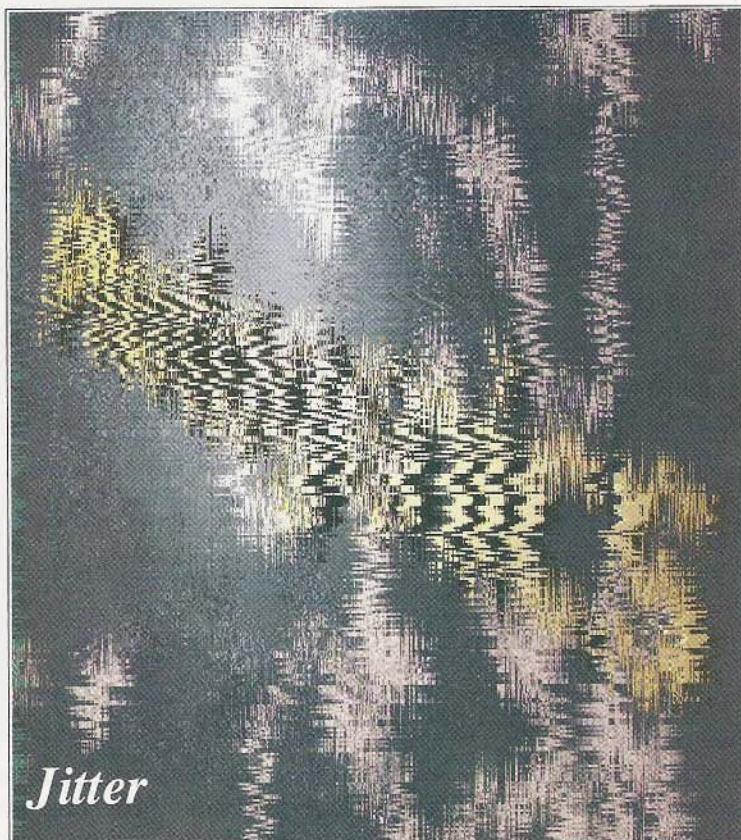
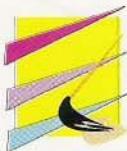
needed areas. If you're unfamiliar with Photogenics, it's basically an image processing package designed like a paint program. You can take an existing image or create one in paint program fashion - select brushes, brush types, colours, and paint with them using a variety of tools.

This image can then have a number of image manipulation functions applied. On a more simplistic, less creative level, an image can just be loaded and converted to another image format.

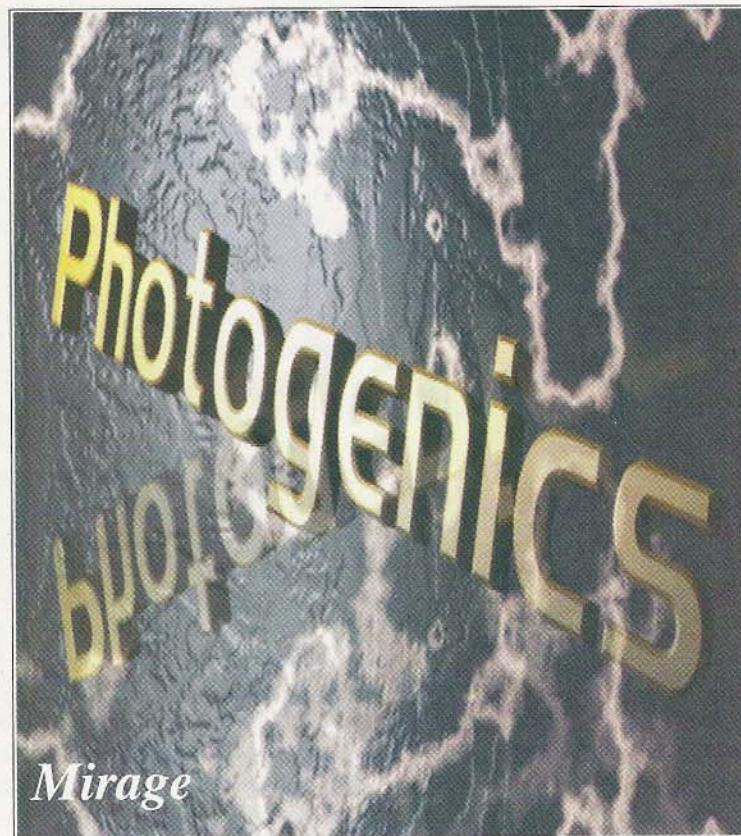
To go about altering an image, Photogenics opens each one in its own resizable, rescalable window. Each image can be active as a main buffer to work on, or a designated image can act as a secondary or alpha channel image. Secondary images are used for compositing purposes and other effects, while an alpha channel is used to control how much an image is affected by a particular function according to the colour values found in the alpha channel.

When an image is loaded, Pho-

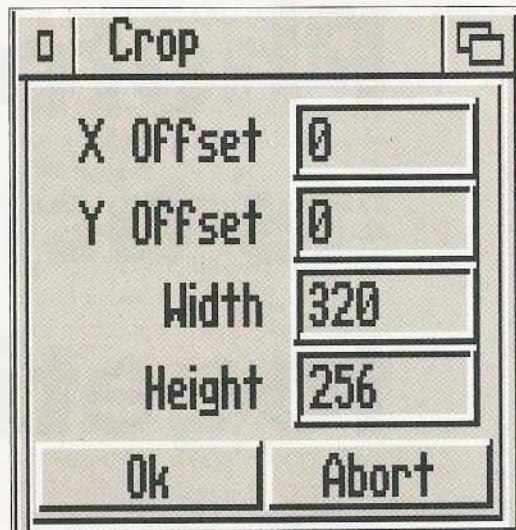




Jitter



Mirage



togenics converts it to 24 bit internally for maximum quality. Each image loaded then has an invisible paint layer created "above" it, so to speak. This layer is like an imaginary sheet of glass, which is what is actually affected when an operation is performed. If, for example, the paint freehand tool with an air-brush set to a red colour is selected and painted over an image, the actual image underneath is unaffected. Likewise, if an image is altered using emboss or jitter, the real thing is again untouched. The imaginary sheet of glass displays the desired effect, but the underlying image is undisturbed.

Of course, once your desired result is achieved you can fix it to the actual image, and then undo if necessary. Using this method, many operations can be performed quickly to see what the result will be before actually committing yourself to changing your picture. Normally in a program you may want to, say, jitter a picture, so you select this function and chug, chug, chug, several seconds later there's your image. Hang on! It's not nearly as jittered as I would have liked it to be. OK! Undo, chug, chug, chug. Change value, jitter, chug, chug, hmmm...

With Photogenics, the effect is updated quickly and only takes up



time when you decide to fix it to the image.

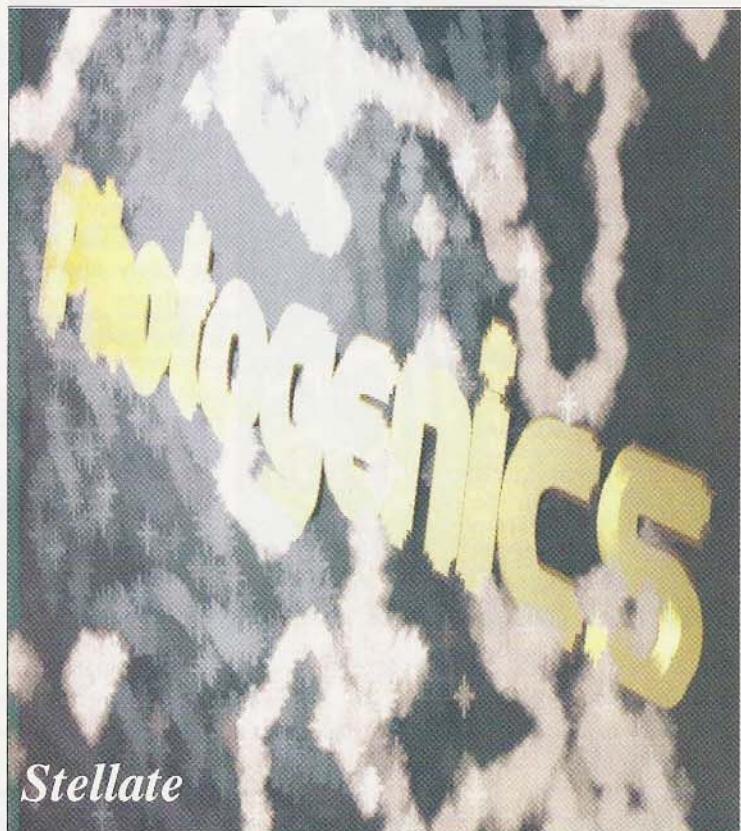
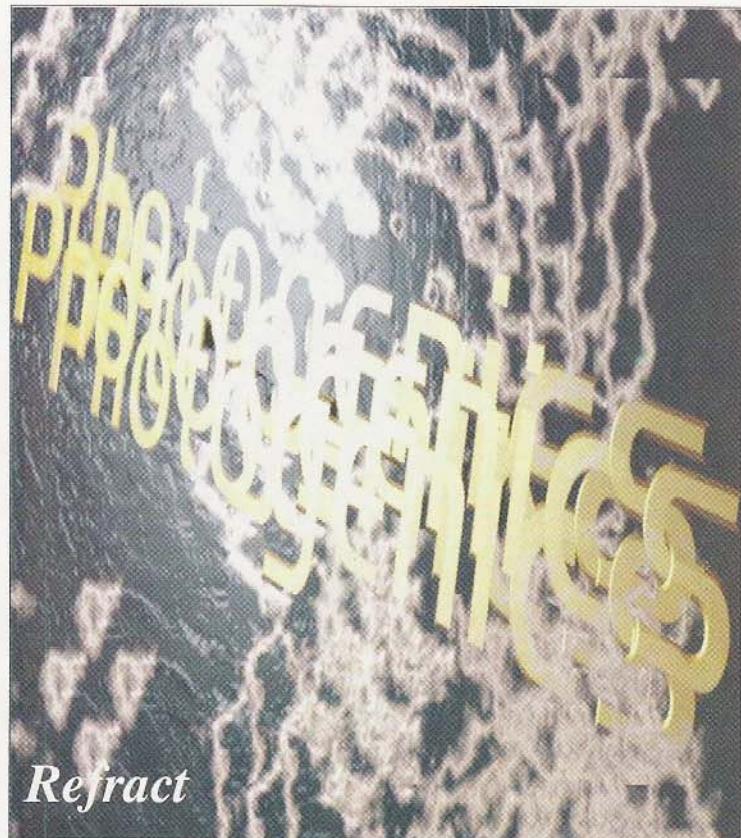
Updates

There are several major improvements in the new 1.2 release, which I am glad to say pretty much cover everything I had a problem with in the first version. It is now possible to crop accurately using the new Crop tool. This allows you to either set the numerical dimension and position values of the cutting edge or drag a box shape within the image visually.

New tools have been added to the tool window. A curve line tool lets you draw none other than curved lines, just like a standard paint program. A warper tool takes a selected area of an image using the mouse and performs a distorted swirl effect, with adjustable warp factor and twirl angle parameters.

Mirage, Colourise, BasRelief and Refract are some of the new paint modes. Mirage takes an image and makes a translucent, vertically flipped copy over the image, for a reflection effect. Refract makes copies of an image and places them at different transparencies around the image giving the effect of looking through a diamond. Other added modes are Crosshatch, Defocus, Dither, Gamma, Jitter, Median, RubEmboss, Split, and Stellate.

Working display modes are available in the original FastHAM8 and 256 colour/greyscale for AGA machines, as well as 16 colour and greyscale for non AGA machines. The Cybergraphics standard is also supported for Photogenics' working display in 15/16/24-bit modes. The cards which support Cybergraphics so far are Cybervision64, Picasso II, Retina Z3, Piccolo Z2, Piccolo SD64, GVP-Spectrum and Merlin. Support in future will include Retina Z2, A2410, and Rainbow III. The working previews





have also been improved, to display the image with better quality.

I am very happy to say that it's now possible to save an image in other than 24 bit or HAM8 format. A HAM6 saver and save to display

buffer is included, and an image can be rendered down to fewer colours and bitplanes with or without dithering and saved in this format. If you're using the freely distributable NewIcons system on your Amiga, Photogenics will create 256 colour thumbnail icons for all image files. The loaders and savers have also been speeded up overall. New TIFF, Targa, and PCX loaders and savers are included.

For users without a Cybergraphics supported card, a handy shortcut feature has been added in the form of the F10 function key. Simply shift select the Save to Display buffer that you use, be it the Opalvision or HAM8

display, and selecting the F10 key while working will render your image to that display.

Compose has been improved by allowing you to use different paint modes within compose, to combine the two images in a variety of different ways. Transparency gradients have also been included, to give smooth transitions with each effect. This is also useful for creating a smooth transition between two images when compositing.

Six preset gradients are available, top to bottom and reverse, left to right and reverse, transparent edged rectangle, or inverse rectangle. You still cannot do gradient fills, which is annoying, because not all transparency gradients fall within the six presets.

Printing can be achieved from Photogenics using the PrefsPrinter and StudioII-Print savers.

Conclusion

The new Photogenics 1.2 is a very important improvement over the original. The major problems in the last version were accurate cropping, gamma correction, composing images with smooth transitions and several paint modes. These features have now been implemented or at least improved. It is now a more serious package, and with quick updates like this and newer additions it should evolve into a standard package for the Amiga. As I mentioned in the previous review, this is definitely the ideal companion for the Amiga 1200 when it comes to image processing and creation.

Photogenics requires Kickstart 3.0, 68020 processor and 2Mb of RAM. AGA graphics, 4Mb of RAM and hard drive are recommended.

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3D Sound?

NuReality Vivid 3D Plus

Reviewed by Daniel Rutter

By Daniel Rutter

The last sound enhancing gizmo I looked at was the Command 3D Sound Engine for IBM compatibles, which claimed to do the aural equivalent of turning lead into gold, and succeeded only in giving me a mild headache and the chance to write a highly uncomplimentary review. I really LIKE panning dodgy products.

So when the NuReality Vivid 3D Plus, the latest PC (and other) sound enhancer to hit the market, dropped onto my desk I must confess a part of me was revving up to demolish it on general principles. Let's face it, in the world of audio tweaking devices if you simply stamp a big red "Flim-Flam" on every one you see you'll be right most of the time.

However, the Vivid 3D came with serious accolades from lots and lots of people (not just the back of the box), and it uses a technology, the Sound Retrieval System or SRS, which has been used by both Sony and RCA as a feature on their top-line TV sets, so there's got to be something to it. My cursory listening to a system incorporating the box in the acoustically lousy environment of the Sydney Home Computer Show

gave me the strong impression there was something to it, so I was eager to try one out somewhere quiet with a variety of sources and speakers.

What's it do?

The Vivid 3D Plus has two sound processing modes. One, the 3D Mono (3DM) mode, is for making fake stereo out of a mono signal. The other one, and the big selling point for the box, is the SRS stereo enhancement mode, which is billed to "encircle you with dynamic 3D sound". I'd like to take this opportunity to point out that if you've been encircled by a sound then it's only got two perceivable dimensions, width and depth; true 3-D sound is something of a Holy Grail for some audio purists, and battles have raged over whether people can actually hear 3-D sound at all from a 2-D speaker array, and if they do hear it, are they just hearing it because they want to? Now, if you take the box blurb at face value, the Vivid 3D is claiming that it can make you hear sound which is not only to the left and right of you, but above and below you and behind you too. With

only two speakers. And for their next trick, the Amazing Cartwheeling Whale.

But if you make allowances for advertising hyperbole, the "encircling" claim seems more attainable. If you follow traditional audio-processing wisdom, it's not possible. The only way to make it sound like there's a noise coming from behind you is actually to HAVE a sound source behind you, which is the idea with traditional multi-speaker surround sound.

But there's a lot of brainwork involved in localising sounds, and various studies have shown that digital signal processing (DSP) of various degrees of complexity can fool the ear as easily as optical illusions fool the eye - and have to in order to work. For example, ordinary surround sound systems typically put a delay of a tenth of a second or so on the sound coming from the surround channel, so the brain doesn't confuse it with the main signal from the front speakers. Kill the delay and even though the surround channel actually is physically behind you, you'll have trouble picking it from the front. So what the hey, maybe the Vivid COULD make you think sound's



coming from behind you when it really isn't.

Enough waffle! Plug the thing in!

The Vivid 3D Plus is designed to fit into a number of different sound systems, from games consoles through sound card equipped IBM compatibles to home stereos. It's a little black box 125 x 100 x 30mm, and it draws its power from a 12 volt plugpack. The back has a couple of standard RCA connectors for input, and a sound card style 1/8th inch stereo jack for output. Twin-RCA to twin-RCA and 1/8th to twin-RCA leads are included; you'll need to get different cables for peculiar setups (like the mono sound output from a standard old Nintendo console) but for most applications this is fine.

First impressions

My first listenings to the Vivid 3D left me impressed. Playing some U2 through a couple of four inch driver Roland mini-monitors four feet apart, cranking up the SRS gave a genuine, smooth, natural sounding widening of the soundstage. It was a million miles

from the head-coldish, out of phase, muddy, boomy mess that good old nineteen-seventy-something IMX expansion can be relied upon to create.

A quick bash at the MPEG CD version of Star Trek VI (well, the good bits at the beginning, anyway) was also impressive, even through the bass-light Rolands. The ubiquitous background rumble of the Starfleet vessels expanded nicely, giving the vague impression that it was on a line with my ears, not in front - but not behind, either. The Vivid 3D Plus differs from the simpler Vivid 3D in that it has two knobs - Center and Space. The Center knob sets how much "centre channel" effect you get, and the "Space" knob changes the amount of widening of the stereo soundstage gets done.

Turning the Center control right down gives a disconcerting "hole in the middle" impression, like a stereo set up with the speakers mis-aimed and too far apart. You also get an effect not unlike those cheesy Karaoke boxes that kill off a vocalist by removing all signals duplicated on both channels - all of the mono data. Since a singer's usually more or less in

mono in the middle of the mix, this kills the vocal and leaves whatever's different on each side for you to sing along with. With the Center control set from the nine o'clock mark onwards, though, the odd effects vanished and the control smoothly changed the prominence of the middle of the soundstage.

Serious testing

Taking the box home, I wired it into my big, bad, black home system and started flogging my CD library, and with the wider range of my monster home speakers and their much wider spacing I started to hear more clearly what the Vivid really does to the sound. If you peg the Space control and leave the Center one at zero, you can clearly hear that what's really happening is a sort of medium persistence "Stage" type reverb effect applied to whatever's different on each side - midway between the tiled-bathroom "Room" and Jenolan Caves "Hall" settings provided by most reverb processing boxes.

Now, just adding reverb doesn't account for the broadened stereo soundstage provided by the Vivid when the speakers are closer together, so there has to be some more advanced jiggery-pokery going on, but with my already-good speakers at an already-good distance from each other the soundstage widening didn't do anything much and the reverb was what I could hear.

Annoyingly, advancing the Space control to widen the stereo field also significantly boosts the volume level - along with the reverb effect, there's some frequency boosting happening as well. Perceiving something as sounding better when it's really just louder is a well known psychoacoustic effect; if you crank Center and Space both to max and then flick between the bypass and SRS modes on the Vivid, you'll have a volume differ-

ence of about 8dB - more than twice as loud, subjectively. Fortunately, the stepped volume control on my mightily beknobbed preamplifier is calibrated in decibels, so by the exercise of some manual dexterity I could keep the sound level pretty constant. I was surprised how much this changed the apparent impact of the widening effect; any residual suspicions on my part that I was immune to those silly psychoacoustic delusions prominent among less educated listeners evaporated as I listened to the considerably more subtle change in the sound.

Kaboom!

Abandoning subtlety, I played a few games, playing the computer sound through the stereo as is my wont. The SRS expansion worked oddly on the super-stereo, separate-channels sound from most games, but it definitely added some ambience. When I also added my old Boss RE-1000 reverb unit into the chain - I use it all the time for games, every home should have one, and a mixer, and a pair of refrigerator-sized speakers - the results were very tasty. But there still wasn't anything behind me.

Civilised stuff

Trying the Vivid with the stereo in the lounge, which has a couple of little Wharfedale bookshelf speakers, I moved the speakers so they were only a couple of metres apart and tried some more music.

An audiophile recording of Vivaldi's "Four Seasons", recorded with a single binaural microphone and with very clear instrument positioning, spread out without losing much of the pinpoint imaging of the original; the loud reprise of the Ode to Joy at the end of Beethoven's Ninth (as heard in 1,001 action movies) turned into a wall of choristers; the "O Fortuna" bit that everybody knows out of

Karl Orff's "Carmina Burana" became even more over the top than usual. When I moved the speakers back to their original four metre spacing, though, the improvement from SRS was not nearly as drastic; I had to wind the Space control right up to hear a significant change, and then the reverb effect started noticeably blurring the sides of the soundfield.

Less complex material was noticeably changed by the SRS - I pumped some generic car-stereo techno music through and got a nice disco ambience happening. Trying the 3D Mono setting out on some 1950s mono blues CDs, I wasn't greatly impressed; "stereoisers" always seem to work mainly by doing different frequency equalisation on each side, which you can do yourself if you've got a stereo graphic equaliser to tinker with; to my ears, it just sounds like a different model of speaker on either side of the room.

Engage!

Firing up the stereo VCR, I did what every right-thinking person does at 11PM on a Tuesday and watched Star Trek. Again, the background rumble became all-pervading without swamping the voices - but I also noticed that either my VCR has a line output that's a bit higher than the one volt it's meant to put out, or the Vivid has a higher gain than it's meant to, because loud sounds, particularly people talking in raised voices, grated a bit in the treble - the classic sign of a solid state amplifier being fed too big a signal. This clipping got noticeably worse when I cranked up the Space.

Ripping it to bits

Inside, the Vivid 3D is a well made gadget. All surface mount except for a couple of chunky capacitors, five chips and the in-

put/output and control hardware. The switches are cheesy, and the potentiometers (the things the knobs go on) are smooth but not premium components anyway. I wouldn't mind seeing better moving parts on a \$200 gadget, but realistically it shouldn't be a problem. The connectors, and the supplied cable plugs, are gold plated; in a non-audiophile situation like this the gold plate makes no nevermind since all it does is prevent corrosion - and not even that unless both plug and socket are gold - but it looks nice.

Do you want it?

If you're a gadget-hound with \$200 to spare, this is a cool toy and you will like it. If you're running your computer sound through lousy speakers too close together - 1084 monitor speakers definitely count here - then the Vivid will work wonders. If you have a stereo VCR but no surround sound system and like to watch movies, SRS will give your action more oomph and your soundtracks more spread. If you have a consumer-grade stereo system, especially in a small room, the Vivid, set correctly, will stretch your stereo without turning everything into mush.

On the other hand, if you're an audio purist with a high-zoot hi-fi, this will offend your golden ears. It may be a lot better than the bad old IMX expansion, but it's still tweaking what was recorded, and that is Not On in serious sound circles. And if you want to make a mono source into stereo - well, feel free to try the Vivid, but personally I'd keep my \$200 in the bank and put it towards getting a stereo VCR, or whatever.

Is it 3D sound? No. Does it sound good, though? Yes. Have a listen and decide for yourself.

Contact Company 29 on (03) 532 5929 for more information. \$199.

Online

By
Daniel
Rutter

Why V.Fast sucks

In the "What's New In Modems?" feature last month, I looked at the two Big Things to happen in modems recently - V.FC (or V.Fast) and V.34.

On the face of it, they look much the same - both allow modems to connect to each other at 28,800 bits per second (Bps). But V.FC came first, and is presently more popular, though the incompatible V.34 is catching up, partly thanks to modems supporting both standards.

But why? Why use V.32 if V.FC is just as fast and better accepted? Is it just the usual mad rush to be first on the block with the shiniest new piece of hardware, or is V.34 genuinely superior? Why are people making, and changing to, modems with the newer standard?

Because 28,800 ain't 28,800. Allow me to elucidate.

The inside story

V.FC has some of the rudiments of V.34 in it - it's an early version, if you will. The early V.FC modems were actually released by some of the participants in the CCITT (Comite Consultatif International de Telegraphique et Telephonique, or ITU-T as it's now known) Study Group in charge of developing V.34. And V.FC's sold like wildfire because for a fair while it was the only way you could do 28,800 comms, and

twice the speed of V.32bis, the most popular previous standard, is not to be sneezed at.

But V.FC is certainly not ideal. There was a flurry of different unofficial versions of the "standard" as all the modem manufacturers got in on 28,800, with various modem makers coming up with their own V.FC models and chips to sell to other modem makers, and as a result one V.FC may or may not work properly with another. They may connect all right - complete incompatibility is very rare - but they may not stay connected too well, or exchange data as fast as they should.

V.34 suffers from the same problems to some extent, because the V.34 spec is very complicated and open to a degree of interpretation, but at least there IS a definite, codified, international design to follow.

Pushing the envelope

All of this matters because 28,800 comms is really pushing the capabilities of our crummy old phone lines. While switching systems, exchanges, telephones and our demands have changed massively over the decades, the phone lines themselves and their information transferring capabilities have stayed much the same.

Telephone lines are meant to carry voices, and nothing else. They have a narrow audio bandwidth - this in English means they only pass a small slice out of the frequencies audible to our ears.

We can hear a bandwidth of about 15,000Hz (15KHz); more when we're young, less when we're old. But the phone lines only pass 3 to 4KHz. The mathematics of data modulation and demodulation is a field that makes quantum cosmology look like trainspotting, but I'm reliably assured that getting 28,800 bits to move every second through a link with, at most,

4KHz bandwidth is like blowing marbles down a garden hose - it can be done, just, but you're not going to get the marbles any larger (or the data rate any higher) without making the hose bigger.

So in order to do 28,800, you've got to be very clever.

Dropping back

As a matter of fact, most "28,800" connections aren't 28,800 at all. Both V.34 and V.FC routinely communicate at less than their maximum speed - though generally better than V.32ter's 19,200 - when the phone line's too dirty to permit faster communication. To actually manage a 28,800 connection you need crystalline phone line clarity.

We in Australia are lucky, because we've got a really good phone system. Our piddling Telecom/Optus duality is as nothing compared to the snarl of Baby Belts and other local companies that is the American telecom scene, not to mention the ancient telegraph lines and bureaucratic bungling that much of the rest of the world endures.

Sure, you occasionally get a dud line calling from one place in Australia to another, but generally speaking we've got a very good deal indeed, and if anyone's going to manage full speed 28,800, it's us.

Nonetheless, it doesn't hurt to use a standard that handles dirty lines well, especially when you're trying to communicate at speeds that really require a perfect, not merely excellent, connection.

Both V.FC and V.34 can deal with lousy lines, but V.34 does it better. When you initially connect, both 28,800 standards do what's called a "channel probe" as part of their handshaking procedure. This involves sending a series of preset tones to the other modem and vice versa, so they can compare what



they hear with what they know is a perfect signal, and hence tell what the line's like in the frequency response and noise departments, and also pick up on any odd non-linear distortion characteristics, which show up primarily on certain international connections.

V.FC measures line characteristics at six frequencies, concentrated at the upper frequencies (where hiss lives). But V.34 measures at every 150Hz - 25 bands in the 4KHz range. So V.34 has a much better idea of what its line is like, and can set its transfer rate more appropriately.

V.34 also monitors line noise and signal-to-noise all the time, which V.FC doesn't do; this means V.34 should notice a deteriorating line sooner than V.FC, and subject you to fewer garbage characters.

V.FC has a tendency, thanks to its more cursory line analysis, to connect at a higher rate than it should, and a higher rate than V.34 would under the same circumstances.

Unless the line magically gets better, V.FC will communicate poorly at this over-high rate, and will probably "retrain" - lose synchronisation and do another handshake for a slower connection.

V.FC retrains can take from five to 60 seconds, and while the retrain's happening, your communication isn't. In high-powered modem-linked networking applications this can cause all sorts of bother, as network servers that don't know or care that there's a modem involved decide a machine's gone dead.

If you're just doing ordinary personal computer comms, a lengthy V.FC retrain won't kill anything - but it is dashed annoying. And to make things even worse, some particularly budget-priced V.FC interpretations don't support rate switching at all, so if

"V.34 is better in some important ways."

the line's not good enough for communication at the originally established speed, the whole connection just goes click.

V.34, on the other hand, is likely to connect at a more appropriate speed in the first place, and so not have to change its rate to suit the line. And if it does have to drop back, it can do so via a "fallback", which is much better than a retrain.

In a fallback, both modems retain their connection and practically instantly drop back to a slower speed, without having to do the whole new handshake required by a retrain.

V.34 can fallback all the way to 4,800 if it has to - not quite the 2,400 I've occasionally been driven to by execrable line conditions, but near enough.

V.FC's slowest communication speed is 14,400. This means that if you're using a true stinker of a line, V.34 will keep your connection (though you may choose to give up and try again later), whereas V.FC will stumble blindly back to 14,400, and then drop carrier. You'll have to turn off V.FC and do a V.32bis connection to get sub-14,400 communication happening.

Still on the subject of transfer rates, V.34 has independent transmit and receive speeds. This means that a line that's not good enough for bidirectional 28,800 but can manage 26,400 (V.34's next step down) both ways with some room to spare, can have data going at 28,800 one way and

26,400 the other. V.FC can't do this.

Technobabble

Some of V.34's other extra features wouldn't sound out of place being used as a strategy for increasing warp nacelle efficiency on the Starship Enterprise.

It does nonlinear coding to reduce distortion of signal peaks, and also precoding, which, and I quote, is "changing the transmitted signal to reduce the effects of noise multiplication in adaptive equalization, which compensates for severe amplitude distortions". V.34's anti-noise strategies include constellation shaping and robust multidimensional trellis coding.

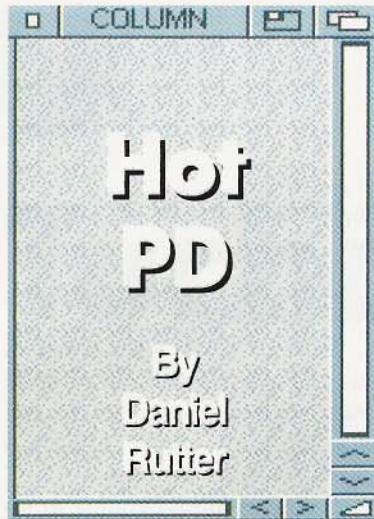
If you know what these mean, bully for you; the rest of us can just take heart from the fact that all of these features are either nonexistent or less powerful in V.FC.

The last word

So there you have it. V.34 is better than V.FC, in some important ways. V.FC still rules the world in popularity, but it's sliding fast as dual-standard and V.34 only modems gain sales. This is not just another case of buyers following the leader to whatever's newest; there's a real benefit. V.34 deserves to win, and it will.

If you're in the market for a new 28,800 modem, my advice from last month still stands; even though V.FC is doomed to go the way of the dinosaurs, you'll be cutting yourself off from a lot of people if your modem doesn't support it. But getting a V.FC only, non-upgradable modem will see you with an unsellable lump of plastic in a year's time. So if you find a V.FC at a massive discount and that's all you can afford, go ahead and buy it. But V.34's the way to go.

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Deluxe PacMan ★★

Edgar M. Vigdal came up with Deluxe PacMan before his more spectacular Deluxe Galaga. It's yer basic PacMan game with a few unusual bonuses (turbo-Pac, Pac-gun...), gorgeous graphics and many mazes. Smooth, slick and simple. The latest version brings some minor enhancements and bugfixes, plus a dedicated AGA version with smoother, tastier graphics. If you like PacMan, you'll love these.

The PacMan games were too big to fit on the companion disks, so I've put them on separate disks, one each, available from Prime Artifex as Deluxe Pacman ECS and AGA, respectively. \$5 including postage. Bargain.

LZX 1.20 ★★★

I mentioned LZX, the latest contender for Amiga Archiver Of Choice, a while ago; it's now hit v1.20. There are considerable speedups and optimisations in the registered version of the program, but the evaluation version is less exciting. Compared with version 1.00, 1.20 scores various bugfixes and minor tweaks, 144K less RAM use, much faster adding of new files to existing archives and deletion of files in archives and faster decompression.

The registered version, however, has among other things more effective compression, a fast mode that eats a mere 32K more RAM,

asynchronous I/O (reading while writing while crunching, for more speed), and it decompresses .lzh and .lha files. So it sounds as if it's worth registering.

As before, I've LZX-ed up the 020 and 040 processor versions of LZX; if you can use them, de-crunch 'em yourself.

DeTag ★★

People who glom a lot of files from bulletin boards will be familiar with tagitis. This is the disease hot new software suffers from - every BBS it passes through automatically adds its own little stupidly named tagfile telling you to kAll 4 hOt WaReZ, d00d, on +123 456 PRI-VATE.

So when you, the user, finally extract the archive you get in some cases literally dozens of weeny, stupid files to wallow through and delete, cluttering up the program directory.

DeTag goes some way to getting rid of the darn things. It's sort of the BBS tag equivalent of a virus checker; it churns through archives before you extract them and kills tags automatically. DeTag

Program complexity:

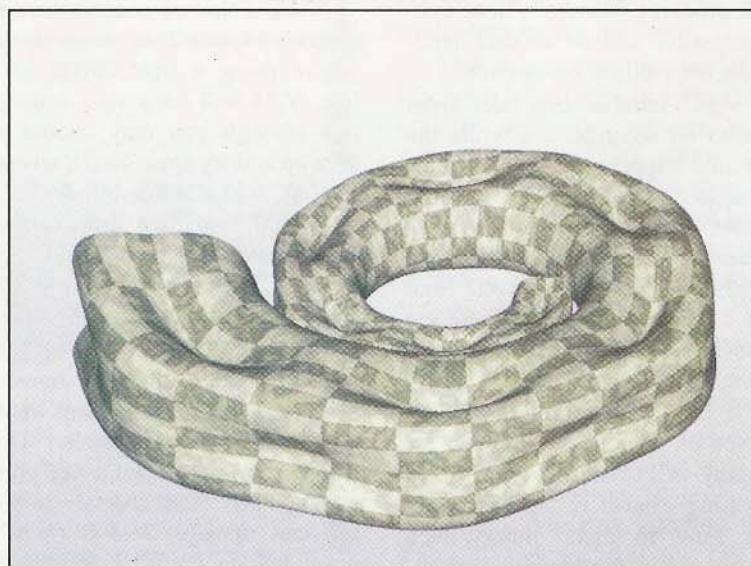
- ★ Darryl Eastlake
- ★★ Murray Walker
- ★★★ James Hunt
- ★★★★ Doug Mulray

recognises a fair number of tags off its own bat and you can also do manual scans for tags and flag them as being filenama non grata for the future - you can view files you're not sure about, and merge databases if you like. The manual warns against accidentally marking tags called README.TXT or something similar, as that'll kill all future incidences of what is most likely an OK file.

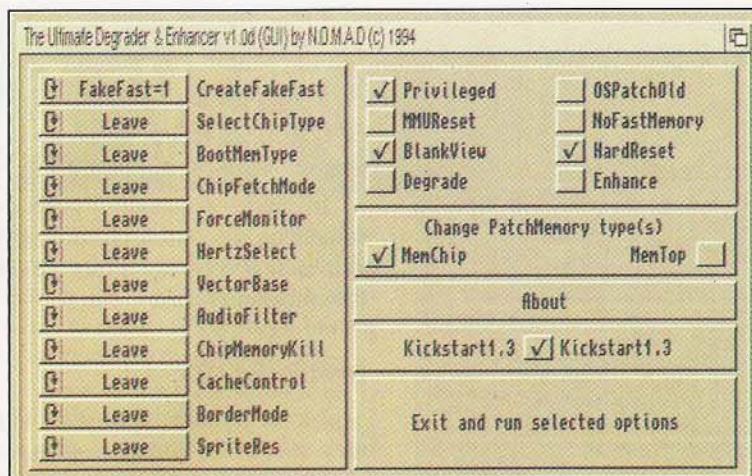
It is not at all complimentary about the people who think README.TXT is a good name for a BBS tag.

FastView ★★

I've always got time for a nifty new picture viewer, and here one is. FastView displays IFF, GIF,



Shelly lets your renderer make these!



TUDE - it's not called the ultimate for nothing!

BMP, PCX and JFIF (JPG) images, and by and large lives up to its name.

It works on AGA and ECS systems, automatically doing the best display mode your machine can manage, and it will happily display images with more colours than you can actually display, chopping the palette down so you get a reasonable approximation of the original. It preloads the next picture in a series while displaying the current one, it can save IFF versions of non-IFF pictures, and when I tested its speed it came up pretty well.

FastJPEG, an older dedicated viewer, scored nine seconds for displaying a test JPG on my 40MHz 68030 machine; FastView took 12, or about a second more if I turned on its dither option, which gave a smoother result than FastJPEG.

ViewTek, the most popular everything-viewer, took 27.5 seconds to display a test GIF image, and FastView did it in 7.7, or 11.1 with dithering! FastGIF did it in 5.9 seconds, but that was a 16 colour grey render, not a HAM6 colour one. FastView took 4.3 seconds to display a 24 bit 640x480 PCX image in HAM6; there's no other standalone PCX viewer I know of,

but I reckon this has to compare pretty well with Workbench 3.x machines doing it with a datatype. It did a 320x200 256 colour BMP image in 1.3 seconds. You can't display compressed BMPs, but most aren't.

One feature that impressed me - for its ingenuity, anyway - is that FastView can, optionally, calculate

the ideal palette for a picture it's rendering as HAM6 or HAM8, and save it in the file's comment. This means the next time you view the picture, it'll look slightly better. I tried it out, and indeed there was a small difference. Whoever woulda thunk it.

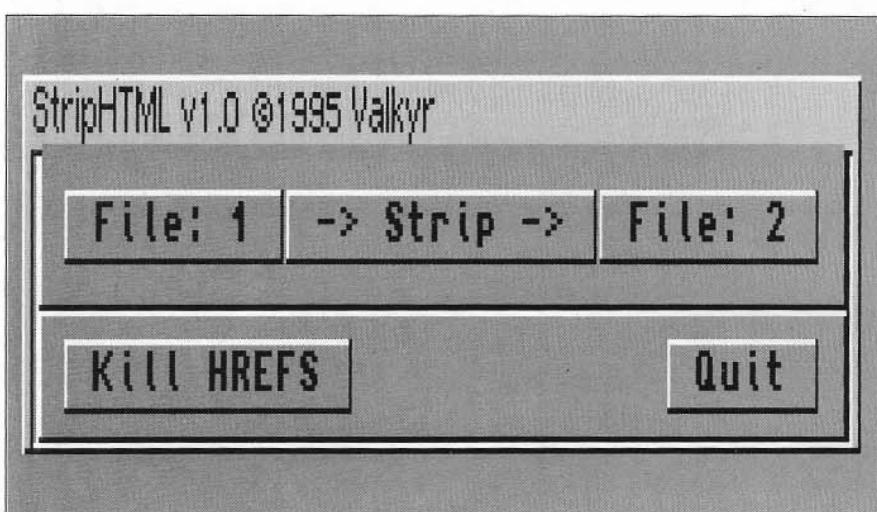
Overall, I really like this program. Viewers are a dime a dozen, and most have nothing very much to commend them - FastView's different. It's even tightly coded - all these features fit in a 24K executable (with a couple of other little bits you have to install). You need Workbench 2 to run it, though.

TUDE ★★☆

If programmers wrote to AmigaDOS spec, we wouldn't need degraders. But they frequently didn't and still occasionally don't, and so programs that choke back modern Amigas into pretending to be older ones have a market. The Ultimate Degrader and Enhancer



Another Shelly shell



StripHTML - Hypertext Markup Language editor

(TUDE) is the product of an ex-cracker, and aims to combine the features of every other similar program - Relokick, RunIt, Degrader, Runlame and so on.

TUDE can patch privileged-error generating 68000-specific code, reset your MMU, reset your display to a blank ECS screen to cure screen-corrupting problems, patch library vectors to behave like 1.3 versions without mapping 1.3 into RAM, kill your fast RAM, hard reset the machine, kick your machine down to v1.3 (requires a 1.3 kickfile) with any of the other options active as well, force programs to use RAM from the top down to avoid programs overwriting patches, force patches into chip RAM, fake fast RAM out of chip, emulate older chipsets, read floppy bootblocks into chip or fast RAM, alter AGA chipset chip RAM fetchrates, patch all OS-opened screens to use a particular monitor type, force your machine to behave as NTSC (or PAL, for that matter...), reset VBASEs to the 68000 location or move them to fast RAM, turn the audio filter on and off, chop back chip RAM, toggle all your caches, blank bor-

ders on AGA machines and change hardware sprite resolutions. There's also a general Degrade and matching Enhance function, which respectively lobotomise your machine as much as possible and turn on all your power features, automatically.

Essentially, if a piece of software can't be made to run by TUDE, its creator should be awarded the Grand Prix For Inventively Irritating Coding and pushed off a cliff.

This is a beta version of the program, and it crashed on me a lot - but it worked OK on a friend's machine, and hey, if you're using a degrader, you're used to crashes.

Haiku ☆☆

Here's a useful program. It's a REXX script that creates semi-random haiku poems. Example:

*The shallow cave jumps
When pliant valleys rebel.
Does the dry thrush wake?*

Another example:

*The hard hill living;
It is the waiting sparrow.
Bubbling, I soar.*

It may eventually generate something profound. It probably won't. It's very small, so it's on the companion disks.

Bratwurst ☆

I have absolutely no idea why they called this Bratwurst. It is not about sausage. It is a Gravity Force-style multi-player combat game, where you fly little spaceships with thrust, guns and special weapons in an abstract two dimensional arena and try to baste each other to smithereens.

Bratwurst isn't much to look at in a still frame, but it's quite nifty when you're actually playing; everything may just be dots and blocks of colour, but it uses vector graphics so it can scale as you play. What's this mean? Well, all of the players are always shown on the screen, and the screen zooms in and out as necessary to do this. At extreme zoom out you're ill-defined little splodges, at maximum zoom in the ships, while still internally featureless, are clearly outlined.

Up to four people can play (there's no computer opponent, so you must have at least 2), but in most other respects Bratwurst loses to Gravity Force 2 (which I checked out some eight months ago). It's only got five special weapons, though it does have different ships with different weights, thrusts, degrees of toughness and main guns, and you can mount the special weapons in different places on all the bigger ships.

The gameplay's slower than that of Gravity Force, though the bullets move fast enough - you have to do more strategic play.

With two players, it was fun; with four it should be a blast.

You need an AGA machine to play Bratwurst. It's described in the docs as a beta release, so the final version should be better. On the companion disks, anyway.

RawDvorak ★★☆

Are you one of those mutants who actually uses the Dvorak keymap? More efficient, yes, but also highly nonstandard. If you do, you'll do it with a different DOS keymap, but what if a program ignores the keymap and has hardcoded key values?

Use RawDvorak. It reprograms the keys into the Dvorak layout, so every DOS program you've got will use the "<>PYF map instead of the QWERTY one. Another program perfect for the sabotage of other people's computers. Not that I'd do such a thing.

YourFault ★★☆

Here's one for the people whose Workbench isn't perfect if there's anything in it that looks like it came on an AmigaDOS install disk. YourFault lets you patch your system error text - you know, turn "not enough memory available" into "Yo! Outta RAM, dude!" or, for that matter, "object is in use" into "I'm too dumb to realise nothing's using this any more".

You can make whatever error strings you like by editing a simple text file. Now, if I were a devious practical joking person, I'd run the program with the standard error strings, but swap them all around. But I'm not.

StripHTML ★★☆

In my recent surfing of the World Wide Web I have collected quite a lot of text. More than a little of it has hit my Amiga still in HTML format - Hypertext Markup

Language, the vaguely Amiga guideish lingo used by all Web text so picture embedding, fonts and hotlinks work.

A complex HTML document is full of gibberish in <> brackets, and it makes it minimally legible on non-HTML viewers, but stripping it all off is quite painful - unless you use StripHTML.

This program's no great shakes technically - essentially, it just kills anything that takes the form <something> - but it works. You can turn off killing of HREFS - the pointers to other pages - if you want to keep the useful references to other places. You'll know if you need it; it's on the companion disks.

SoxGUI ★★☆

SOX, the Sound Exchange, is a program I have mentioned before. Essentially, SOX converts between all common sound sample formats, with various effects. This is a graphical interface for it, so you can easily use the special effects and convert odd sounds without going nuts learning the million and one command line options. Well, that's the theory, anyway.

AmiCDEEx ★★☆

Do you have an Amiga CD-ROM drive and a bridgeboard? If the answer to this question is no, AmiCDEEx will be of no interest to you. If you've got 'em both, though, AmiCDEEx lets you mount your Amiga CD-ROM drive from the MS-DOS side, so Bridgeboard program can read the CDs. Just run one program on the Amiga side and put another in the CONFIG.SYS file for the MS-DOS side and you're away. Cool, huh?

Shelly ★★☆

Not everyone will want to know about this one, but it's so

nifty I feel it has to go in. Shelly is a tool for people who use 3D rendering packages, and it generates shells. All sorts of shells.

There are tons of fiddly options to set, but the result is a shell object, or a macro for making one, which works with POV V2.0, Real3DV2, X3D and T3D format, which can be converted to Imagine, DXF, Rayshade and other formats with various TDDD converting programs (sold separately, on Aminet, and in the arsenal of all truly cool render-dudes). Check out the example pictures.

Shelly can also do simple animation - creating a series of shells with slowly changing parameters. I can see some serious time-wasting happening here.

You need a machine with a maths coprocessor - which you probably already have if you're into rendering. The example pictures are in JPG and GIF format; there was no room for an integrated viewer on the disk, but if you can use Shelly you'll know how to view them - heck, you can use FastView!

All of the abovementioned files, save the two versions of Deluxe PacMan, are on the companion disks for this article - HotPD25 a and b. The two are available from Prime Artifax on 1800 252 879 for \$9.50 including postage.

Don't delay, call today. Mention my name and get no money off. Call at an odd hour and you might get served by me - and you might also get an awful lot of something odd bought with your credit card number and delivered to your lawn!

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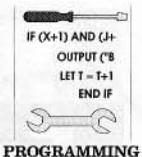
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INTOS

Intuition for AMOS

By Andrew Hawkins

AMOS has progressed in leaps and bounds, notably because of its creator, Francois Lionet, and his passion to create a user-friendly 5th generation language that was accessible to anyone with an Amiga. AMOS is marketed as a games creation language, and indeed most programs created in AMOS are just that.

However, several third party companies such as Voodoo Software and OTM 2000, creators of the INTOS extension, have added bits to AMOS to give it a boost and make it more attractive to people who don't just want to make games.

To give an example, I was approached by a theatre company called Corset Dreaming, who wanted a "soundscape" for their performance. The idea was to have crashing waves, rowing, and many more sound effects to complement the show. Because the show was live, a tape with sound effects would eventually go out of sync. Corset Dreaming commissioned me to create a piece of computer software that allowed the operator to add sound effects and mix them on the fly. I wanted to make the software as user friendly as possible, and so I adopted the GUI or graphical user interface style seen in Windows and Workbench. At the time however, INTOS wasn't

around, so I set about creating gadgets, windows and menus to suit by programming AMOS using its standard graphics functions. To put INTOS to the test, I decided to convert my "Sample Performance Editor" to be Intuition friendly.

What is INTOS?

INTOS provides the AMOS programmer with 120 extra commands to create windows that will run under Workbench. This means you can resize the windows you have created just like any other Workbench window, you can use the proportional gadgets at the sides to scroll the contents of the window into view, and you can select the priority of the window, putting it behind another window if you chose. You can also create gadgets that the user can click on with the mouse, and INTOS supports its own graphics instructions to give your program that extra pizazz. INTOS also make it easy to add pull down menus.

To sum INTOS up, it's Intuition for AMOS, plain and simple. You can create professional-looking utilities such as a spreadsheet or wordprocessor, or in my case a sample editor. The main element of INTOS is that it works in the Intuition environment. Therefore, anyone who knows their way

around Workbench will know how to use your program.

Easy Intuition!

In this light, INTOS can be seen as a revolution in programming, because in any other language - say C, or Turbo Pascal - you have to read volumes of resource books to understand the Intuition system before you're able to program it. INTOS bypasses this process by documenting the commands in a simple to read instruction manual; you think of what you want on the screen, look it up and there it is, ready to go.

The best thing about the way INTOS works in AMOS is its installation process. Unlike the compiler and AMOS 3D, it doesn't require you to install it to AMOS as an extension. You simply copy the INTOS library from the disk to your AMOS language disk, and load up the required commands from INTOS as and when you need them. The commands are really procedures, and when you want to create a window or a gadget you look for the associated procedures on disk and "merge" them into your AMOS program. The procedures you don't use, delete.

I used INTOS to convert my Sample Performance Editor, and it looks very professional. One of the most notable aspects of having the sample editor on Workbench is that you could conceivably have an animation utility running beside it and be able to flick between the two with ease. This would have been very difficult with AMOS alone. INTOS is available from Emerald Creative for \$69. I recommend it wholeheartedly as an important addition to the AMOS programming language. It is also a breakthrough in programming the Amiga Intuition system with ease.

Contact Emerald Creative on (03) 585 2055 for more info.

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- Lightwave Goodies, extra software finally in Australia - CEI Conference, hot from the Internet CEI boss Alex Amor speaks - Removeable storage shootout, comparison of the new Bernoulli and Fujitsu 230Mb drives - Magic Lantern - Surf the Net, Internet access with your Amiga.

☆ ANNUAL SPECIAL - Amiga Dealer List - Amiga Service Centre List - Amiga BBS Listing - Fish Listing
☆ Columns - Online, DPaint, C64 - Games - Super StarDust Alien Breed Tower Assault, Cannon Fodder 2, Beau Jolly Pack including Cannon Fodder, The Chaos Engine, The Settlers, and T2: The Arcade Game. CD32 Banshee.

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- Amiga digital video, full digital video editing. - Workbench 3.1, latest version reviewed - PC-Task, Windows capable Amiga for \$129 - Deluxe Paint 5, a sneak preview - Personal Paint 6.0, and

the Cloanto competitor! - CEI Conference II, Alex Amor speaks again!

☆ Dealer List update - Corrections and extensions to the January listing.

☆ Service Centre List - More corrections and extensions.

☆ Columns - Online - C64 - Hot PD - Demo Scene - AMOS - Blitz Basic - Power Amiga DOS Games - Rocketz - Mr Blobby - The Clue! - Top Gear 2 - Marvins Marvelous Adventure - Rise of the Robots -

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☆ User Group Listing

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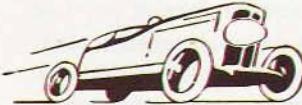
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The SyQuest killer

By Daniel Rutter

The trouble with high capacity removable drives is they're just too darn expensive. Many's the time I've been extolling the virtues of, say, a Bernoulli 230Mb drive to some interested party, only to stop the conversation stone dead by mentioning the price.

High speed, high reliability, infinite expandability, rah rah rah... \$1150 for an external unit with one cartridge, \$250 a cart. Suddenly they're backing away slowly, and not making eye contact. Smile and nod at the crazy man, kids.

Magneto-optical's even worse. A 230Mb MO drive with one cart gives you a few bucks change from \$1700. But the carts are only \$79, I cry - to no avail. The light wallet of the average computer owner makes for a quick getaway.

Syquest drives are cheaper, but unfortunately Syquest drives are also cheaper. You can have an external 270Mb Syquest with a cart for under \$900, but... well...

Death to Syquests!

OK, I'll state my prejudices at the start. I have a deep and abiding loathing of Syquest drives. The basic idea of taking a sensitive,

glitch-prone hard disk platter and putting it in a little plastic box is, in my humble opinion, not the best way to make a removable drive.

If you laid all the time I've spent sweating over a temperamental Syquest drive, cartridge or both end to end you'd have... well, you'd probably only have a few days but if you count all the cursing too it gets pretty impressive.

The manufacturers claim Syquests are more robust than they used to be, which wouldn't be a difficult feat. The old 44Mb drives were rated for a 12 inch drop onto a hard surface - but only in the original packaging. I entered into a brief discussion with a Syquest rep at the Sydney PC95 show on this subject, and he dramatically chucked a 270Mb cart onto the ground. I asked him to now put this cart in a drive and show me it working, and he mumbled until I left.

Essentially, if you give an operating Syquest drive a decent bump, you stand an excellent chance of killing the cart, the drive mechanism, or both. Likewise, if you give a Syquest cart a small whack out of its protective case or

a large one inside it, some or all of your data will splash into the bit bucket, never to return. I have encountered both of these situations more than once; when, as we do, you use Syquest carts all the time to transfer large amounts of data from one place to another, you'd better get used to them.

So what are you to do? Spend a fortune on an invincible Bernoulli drive with expensive carts, or spend a larger initial fortune on a slow magneto-optical drive with cheap carts, or spend a smaller fortune on a Syquest and a rabbit's foot?

None of the above, folks.

You're going to buy a Zip drive.

What's a Zip drive?

It stores 93Mb (100 million bytes, unformatted, which is 97 real megabytes) on a cart slightly bigger than a 3.5 inch floppy disk. It's made by Iomega, who also make the big Bernoulli drives, and it shares many features with them. But not the price.

It costs \$399 for the drive, and \$109 for three carts, or \$319 for ten carts.



Iomega's biggest problem with the Zip is going to be making them fast enough to feed the demand.

A closer look

I got a Zip drive to play with for a weekend, and flogged it wittingly in the name of science. Here's the results.

Physically, the Zip is rather funky. It's a sort of dark blue / purple colour, it runs from a 5 volt plugpack (no power switch), it has a power and an access light on the front along with the eject button, and on the back there are two 25 pin D connectors for SCSI in and through, a switch for termination and another switch that allows you to choose between SCSI addresses 5 and 6 (no other choices). There's a plastic window in the top of the drive that lets you see the label of a disk you've inserted. You can sit it flat like any other drive, or you can use the extra rubber feet on one side to stand it vertically and save desk space.

The Zip is a SCSI-1 device, which will slow down Power Users with superfast Fast Wide SCSI-2 systems but makes no nevermind for the other 4,999,999,970 people in the world.

You load a cart by pushing it into the drive, like a floppy disk. Assuming you've set the address and termination right, you'll be looking at the icon for the cart on your Workbench about six seconds later (my old Bernoulli 150 takes almost 10 seconds, a Syquest 270 around 15). To eject a cart, press the button and a couple of seconds later it pops out. Simple enough.

Making numbers

With a price like this, I was ready for the Zip drive to lose out in the speed tests, and it did. The quick and dirty Sysinfo transfer rate test yielded 1,115,506 bytes per second from my superfast DEC 1Gb hard drive (through my bottle-

“Give an operating SyQuest drive a decent bump, you stand an excellent chance of killing the cart.”

necking old SCSI controller); my Bernoulli 150Mb drive scored 783,298, and the Zip clocked in just behind on 740,823. None too foul so far. A more exhaustive test, using DiskSpeed 4.2, wasn't as kind to the Zip. The hard drive strode ahead on the file manipulation tests, losing to the Bernoulli on file creation but stomping it by 30% overall. The Zip made its big sibling look more respectable, though; it got close to the Bernoulli on the seek/read score (the Bernoulli's weakest point), but overall was less than 40% of the speed.

In DiskSpeed's data transfer test, the hard drive and Bernoulli came about equal in the 512 byte buffer test, which is about as real world as a particularly unreal thing on an unusually unreal day - the Zip came second. Who cares.

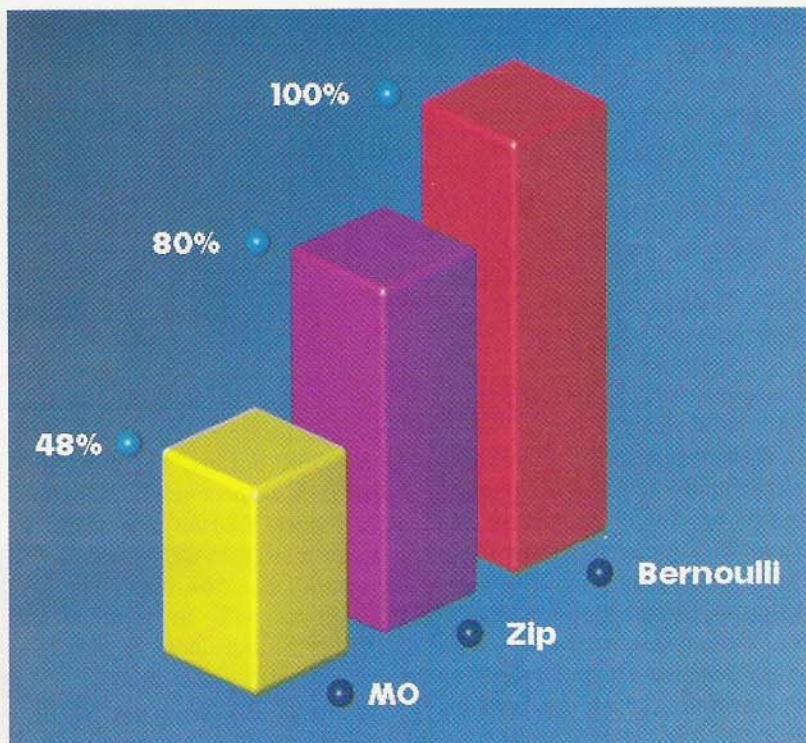
On the more relevant tests, with buffer sizes used by sane programmers, the mighty DEC drive thrashed the Bernoulli by 30 to 60 per cent, depending on the test. The Zip drive lost fairly consistently to the Bernoulli on 4K, 32K and 256K buffers, by 50%, 30% and 20% respectively. As buffers get bigger, transfer rate starts to matter more than seek speed. Mind you, with the 256K buffer my hard drive was 47% in front of the Bernoulli and not breaking a sweat.

Seek results

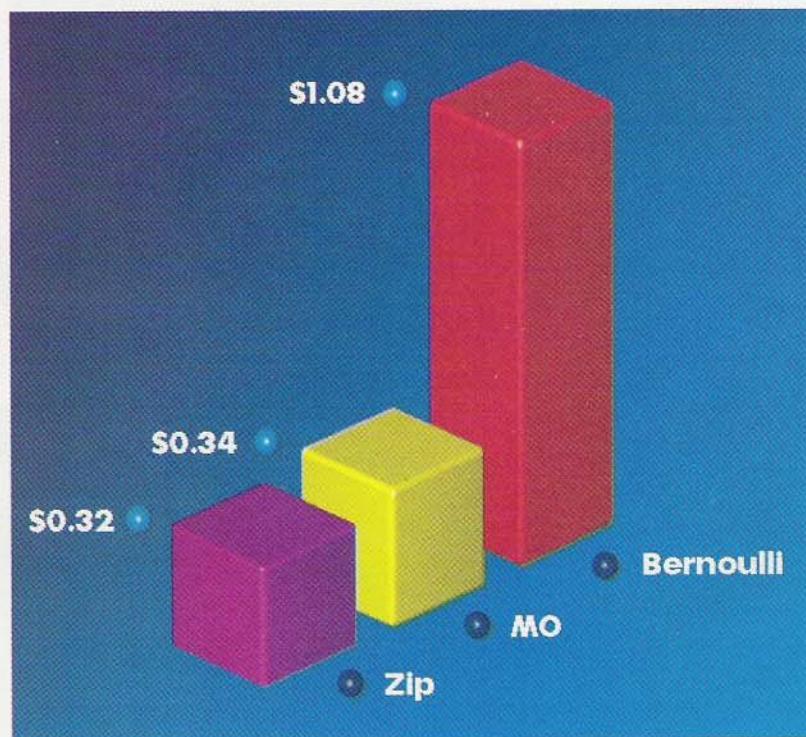
I now turned my attention to seek speed - how fast the drives were at finding a particular spot. If you've got lots of little files or your disks are fragmented, seek



The IOmega Zip drive with 100Mb disk.



Data transfer - the Zip's no slouch.



In dollars per megabyte, Zip wins.

speed is important. The Bernoulli, tested with SeekSpeed V37.12, scored 23mS for a random seek of 8 sectors over 50% of its width, and 26mS for the same thing over 90% of its width.

The Zip drive, flogging hard, scored 46 and 80mS respectively. Oh, and the DEC drive silently generated 6 and 7mS; its one sector seek times were all below 3mS. Unpaid advert: Buy DEC Drives. Thank you.

In English...

What's all this mean? Well, the Zip ain't too fast at basic file wrangling, but its transfer speed is OK. So if you're looking for something to manage all your 2k text files, do lots of searches on and generally whip to death every day, the Zip will deliver disappointing performance - it's roughly on a par with a cutting edge 100Mb hard drive circa 1988. But if you're writing a backup to it, it'll be near enough to Bernoulli speed, which is plenty fast enough.

When you remember that the Bernoulli was, overall, well over twice the speed of the magneto-optical 230Mb drive, the Zip's results start looking pretty good. Sure, it's only got 43% of the capacity of the magneto-optical, but the cartridges cost a tad less per megabyte and you can get more than four Zips for the price of one MO!

Unless you really really need to store files bigger than 93Mb, the case for the magneto-optical is looking shaky.

Whack! Pound! Pummel!

Now came the fun bit - the torture test. I knew this was an Iomega product, so I figured it should be able to take some abuse. I took it to a friend's place and plugged it into his beefed up 1200, then we copied a huge CDXL animation to the drive and started it



playing at top speed, sucking as much data off the drive as it could deliver.

Then I shook the drive like a maraca.

Do this with a Syquest drive and, as I may already have mentioned, it and its cart will shortly be sitting on a cloud and playing a harp. Do it with a full sized Bernoulli drive and you'll bruise yourself before you can induce an error. The Zip drive was easier to discombobulate - a good hard lateral shake made it skip - but there was absolutely no damage; when I eased off on the mariachi routine, all was well.

Then disaster struck. The animation froze. When we rebooted the machine, the Zip drive had vanished.

I had that sinking sensation you only get when you're trying to find the best way to say to a supplier of review hardware that you've just broken the only NiftyDweebToy (trade mark) in the country.

Then I noticed that I'd shaken the drive hard enough to whip the cable out of the back of the computer. I plugged it back in. It worked. My faith in Iomega products was restored.

The bottom line

The Zip drive's initial price advantage is clear, but it carries through to long-term value, too, which is worth considering if you're going to be buying a lot of carts.

Let's say you want 1940 megabytes of storage, which just happens to equal 20 Zip cartridges. Nine of the 230Mb magneto-optical or Bernoulli carts will give you this much storage plus another 68Mb, and with seven Syquest carts you'll have the same amount less 107Mb. This'll do for the sake of comparison.

For this, the Bernoulli solution will cost you a hefty \$3150, thanks

"Then I shook the drive like a maraca."

to the \$250 carts. A magneto-optical will only set you back about \$2300, despite its \$1700 base price. And the Syquest will live up to its bargain basement reputation with a \$1624 tag.

The Zip drive will cost you \$1037. For the thick end of two gigabytes of storage. Every extra almost-a-gigabyte will only cost you another \$319.

Overall

In case you missed it, I don't like Syquests. But the competition just hasn't been up to scratch

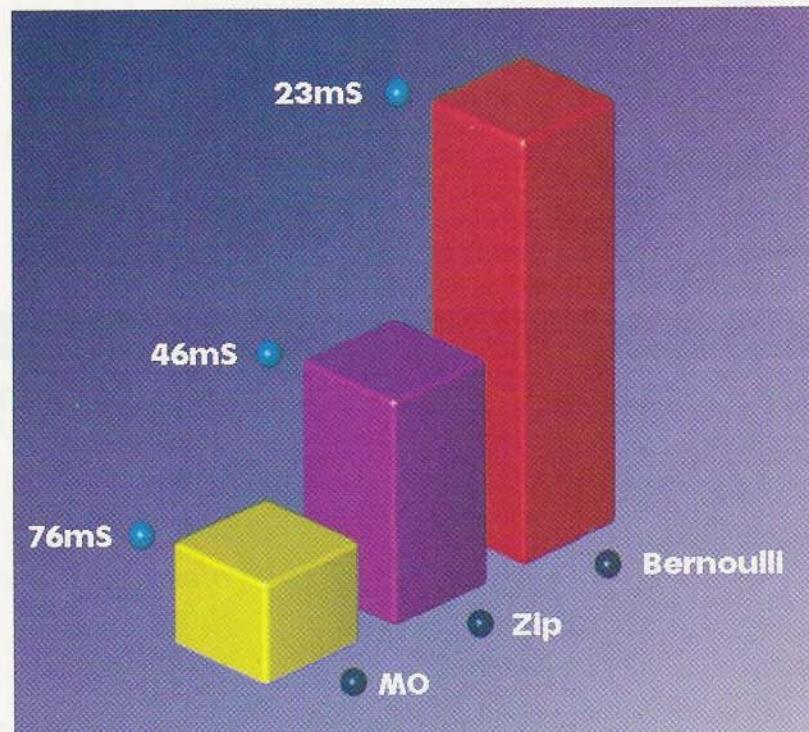
pricewise; there are plenty of people who agree that Bernoulli drives are really good, but plenty of people also agree that Mercedes-Benzes are good cars. It doesn't mean they can afford one.

Here, in the Zip drive, I hope we have a Syquest-killer. Go out and buy one - if you can find one; the first shipment should vanish practically overnight and the next one's due in December. Get in early, folks.

And yes, I am buying one.

Many thanks to Digipic Productions on (02) 948 2766 for the loan of the Zip drive. The drive costs \$399, 10 disks cost \$319, three disks cost \$109.

□



The Zip's seek speed's not fast, but it beats magneto-optical.

Australian Commodore &

AMIGA Review

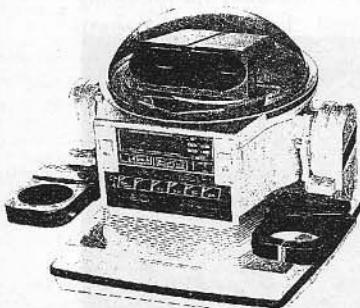
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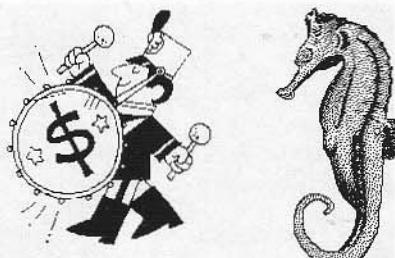
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- Big Cartoons (Require 3Mb)
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- Big Cartoon 6: Enterprise Docking
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- Cartoon 3: Jugette, Jugette 2, Juggler 2
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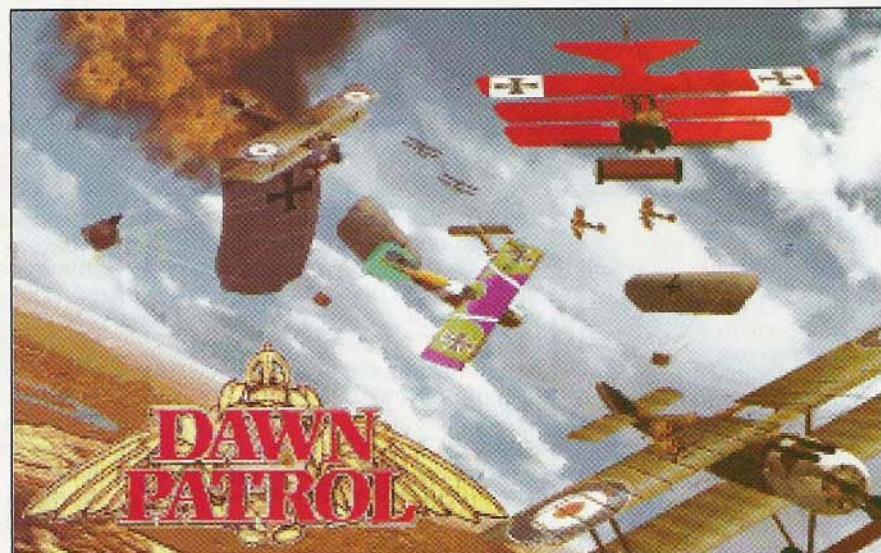
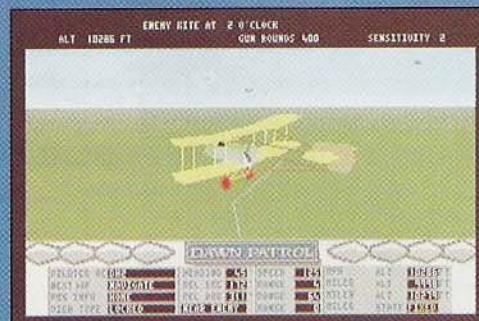
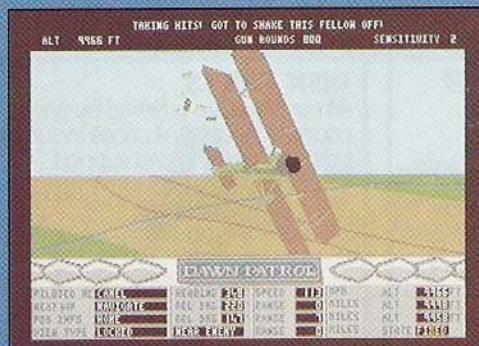
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I've seen a few World War One air combat simulations, and I like them as a genre. If realistically captured, the feel of being up in a glorified boxkite with a cranky machine gun or two the extent of your technological assistance beats hands down the fly-by-wire isolation of a "modern" combat flight simulator.

My favourite Amiga WWI dogfight game was Wings. Sure, it's historically inaccurate, sure, the planes handle like F16s; who cares - the dogfights feel real and you can get genuinely annoyed if you'd been the one picking at some irritating Fokker Triplane for twenty minutes and your rookie wingman put in the last shot and grabbed the kill.

Dawn Patrol takes a different tack - instead of "being" a flyer working your way through the war, you can drop in at any point, pick any battle you like, tinker with the type and number of combatants and play either side. You start in the air at the beginning of the battle, as in Wings, and you can end a mission when the last bad guy's dead, or fly back to base, or abort at any time.

The game's interface is laid out like a book - not necessarily a great idea, but there it is - and almost every page has a config-

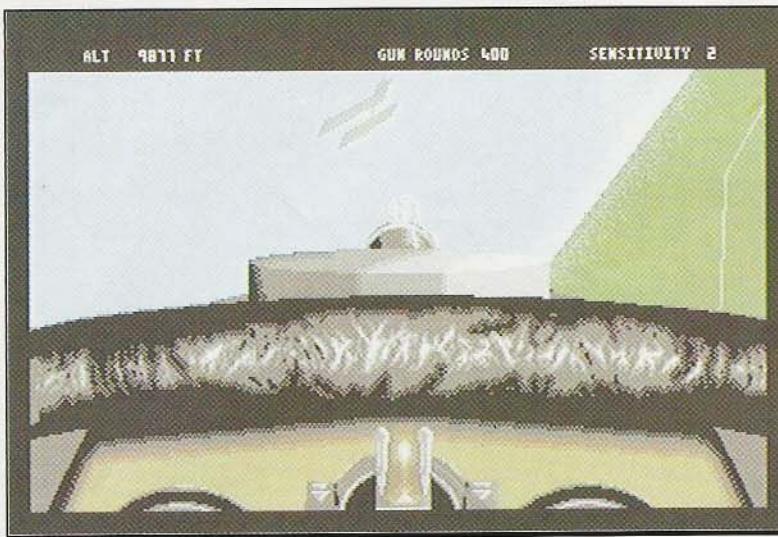
urable mission on it, as well as information about a given plane, pilot or period.

Dawn Patrol's graphics are not its strong point. It's an obvious conversion from the IBM compatible original. The PC version looks lovely, but on the Amiga everything's been uglified until it can run on a plain ECS machine. Result - not much colour. The screen size isn't very big, either, which means your field of view isn't great. But you can run it on any Amiga.

The sound is nothing to write home about, either, but I can forgive a lot if gameplay's good.

Dawn Patrol can be hard disk installed (it's got a very slow non-standard installer, but it works), and it doesn't have any irritating refer to manual protection. On my 030 at home I had to boot from a clean system and turn off burst mode to make it run, but it worked OK on a 1200 without any tweaking.

Dawn Patrol has as many keyboard commands as you'd expect from a real flight simulator - nearly a hundred of 'em, if you count shift and alt combinations. Naturally, not many are actually used to fly the very simple plane - throttle, stick, rudder, that's it.



A lot of the control keys are used to deal with Dawn Patrol's profusion of different view modes. As well as looking forward over your guns, you can look down at your gauges, back, left and right, look at your plane from various angles outside, look from your cockpit at the nearest enemy, look at the nearest enemy in the background with your plane in the foreground, see your plane from a satellite view, follow your bullets as they fly, see whatever you hit with your bullets, and so on and so on and so on.

Views?

This game's got 'em.

The plethora of views makes it a bit tricky for beginners to see what they want when they want it - when so many keys have a function, a panicky stab at the keyboard can cause a disaster - but this problem is endemic with complex flight simulators, and the extra realism makes up for it.

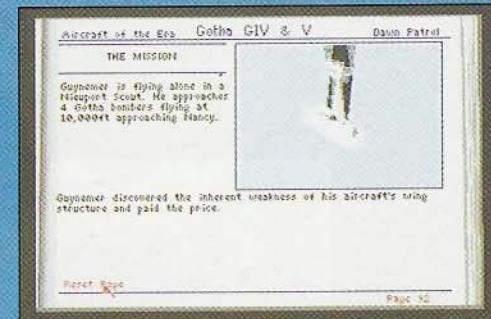
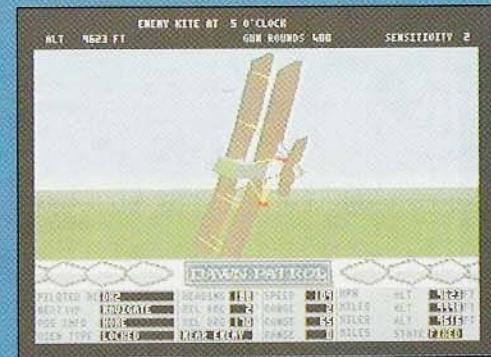
Dawn Patrol's manual is comprehensible and well laid out, and it comes with a fold-and-stand key reference as well. You also get an illustrated book on Baron Manfred von Richthofen, containing many excerpts from the Red Baron's diaries as well as tons of information on the period.

Dawn Patrol's certainly a winner as far as value-added freebies go.

The planes handle like the real ones - and they're all different. If you're flying an Albatros biplane, don't expect to turn too fast; if you do a 230 mile an hour power dive, your wings fall off. The planes lose altitude if you're turning hard with no rudder, and they become annoying to fly when shot up - not to mention becoming more likely to just disintegrate in the air.

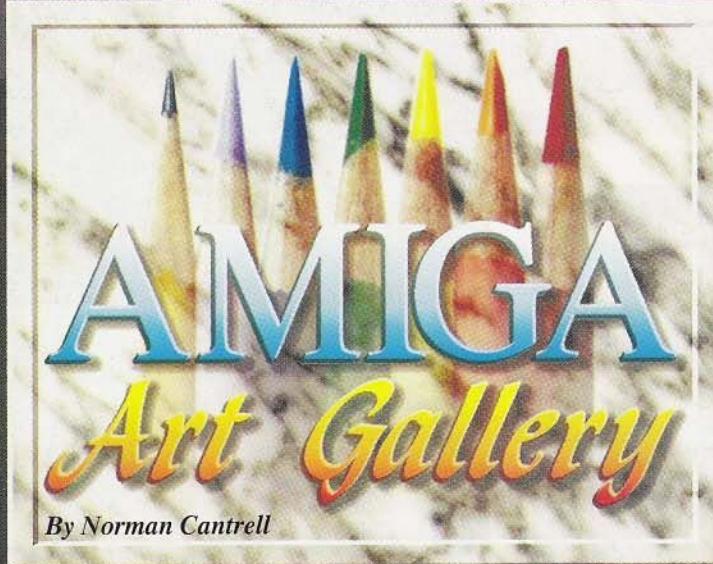
If it's all a bit too tricky for you, there are plenty of difficulty options. You can make your engine 50% more powerful, make yourself invincible, give yourself infinite ammo, make the bad guys easier to hit and make them lousier pilots - and if your Amiga's not fast enough, you can cut down the detail levels too. And you can video-record missions, to see what you did right and wrong later.

With all the idiot options on, anyone can get into Dawn Patrol and start learning to be a pilot. Turn all the ease-making stuff off and if it weren't for the lousy graphics, you could be there. Not an eyepopper to start with, but this game grows on you. Check it out. □



Dawn Patrol

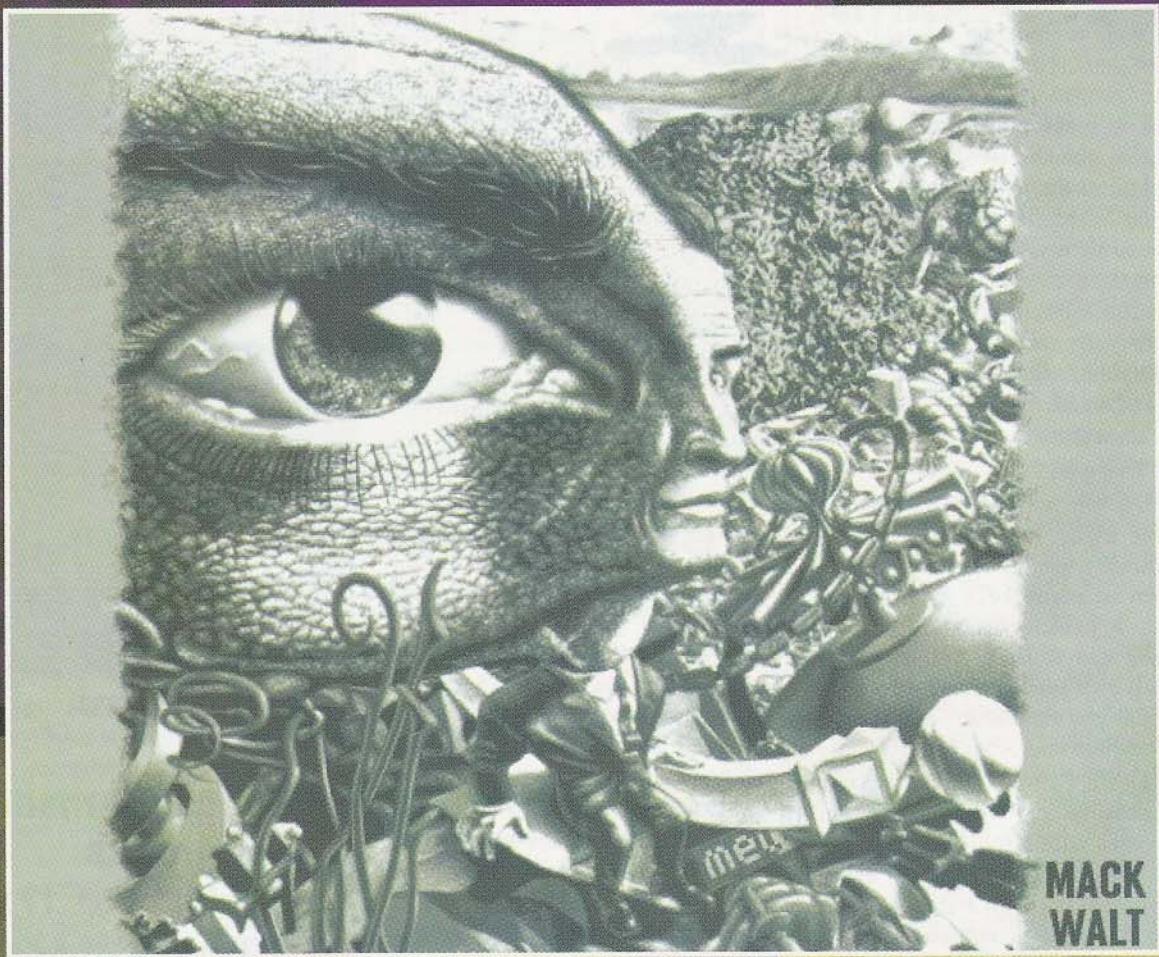
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By Norman Cantrell

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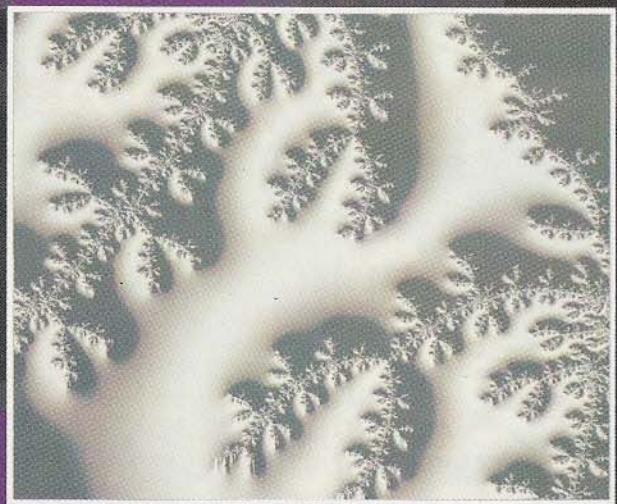
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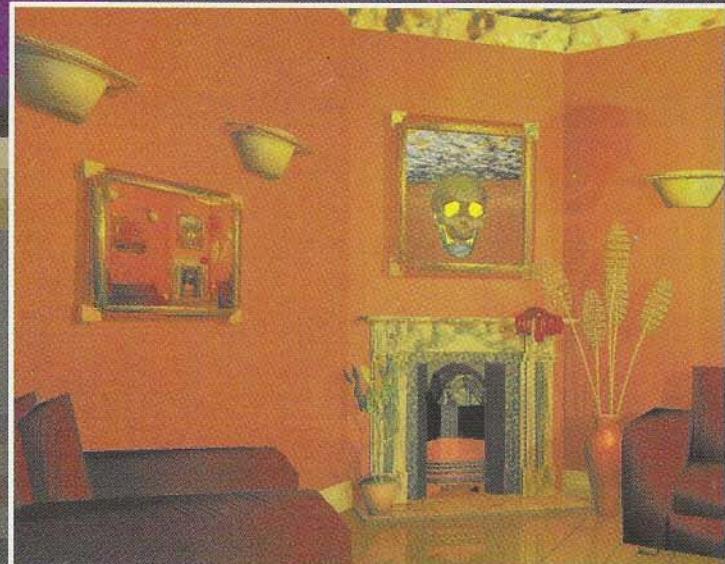
640 x 256, 128 Colours, Created by hand.
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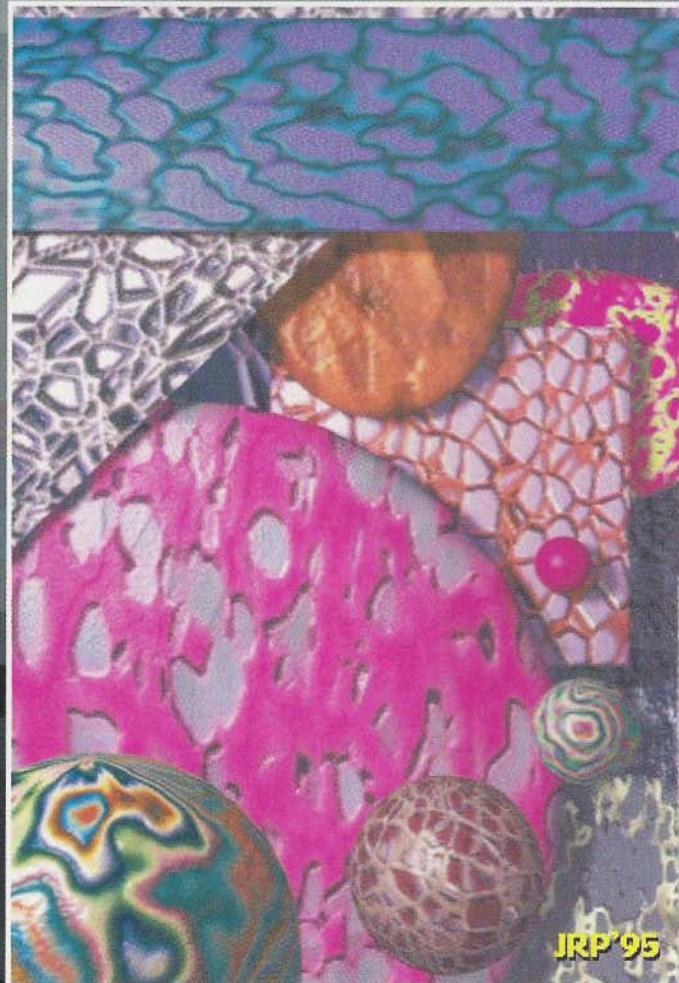
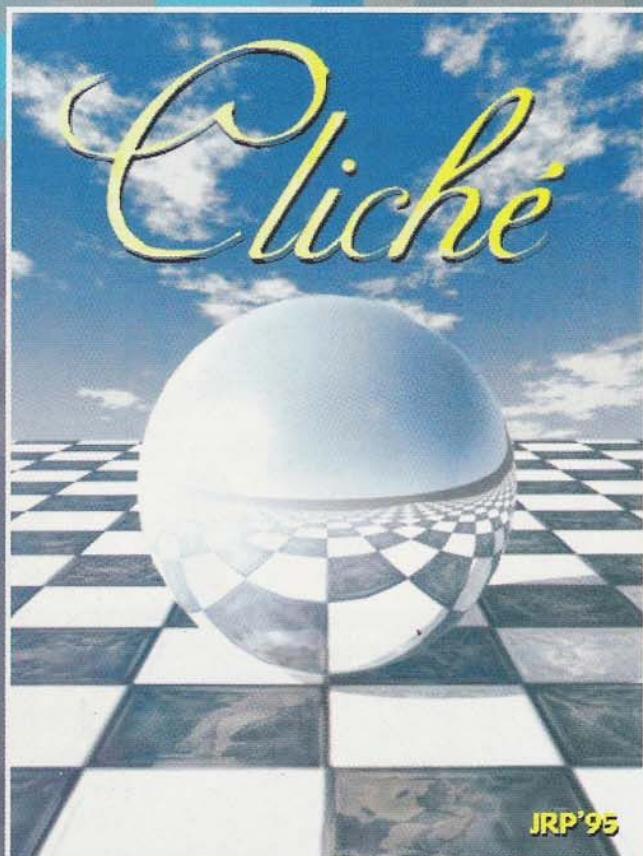
869 x 628, 24bit, Created with misterM.
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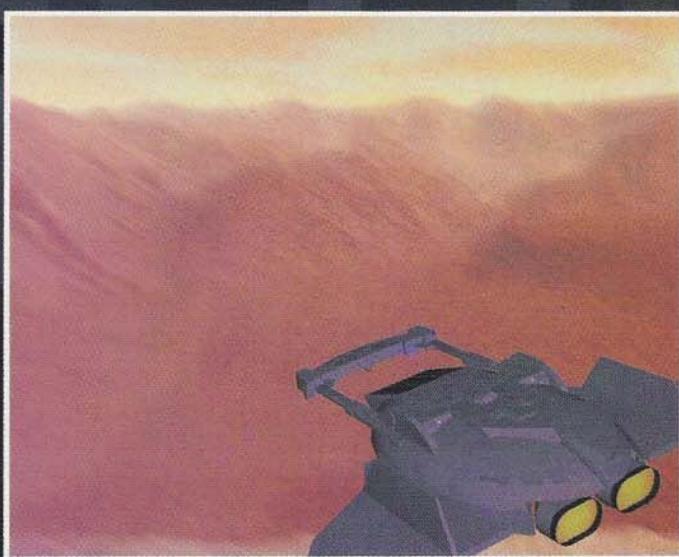
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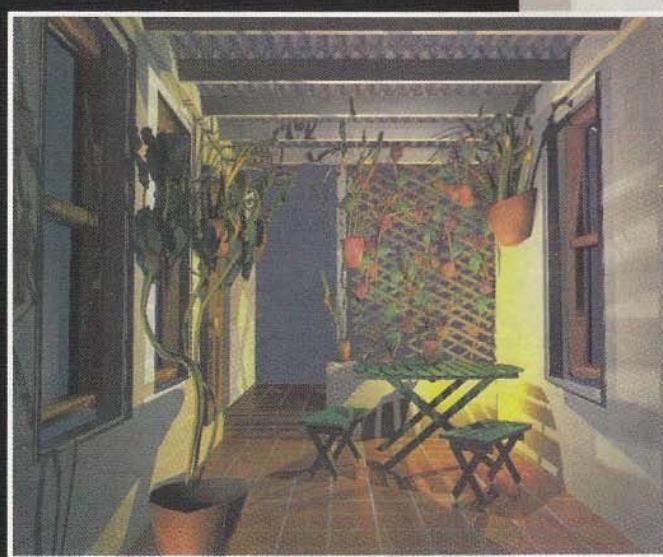
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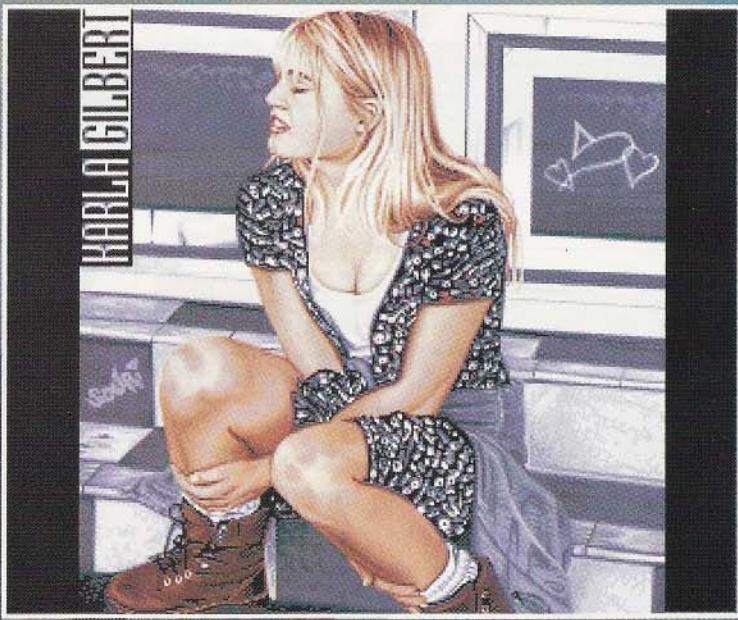
24bit, Created with LightWave 3D and Forge.
By Jarrod Pudsey.



800 x 600, 24bit, Created with Imagine 3 and VistaPro 3.
By Perry Wong.



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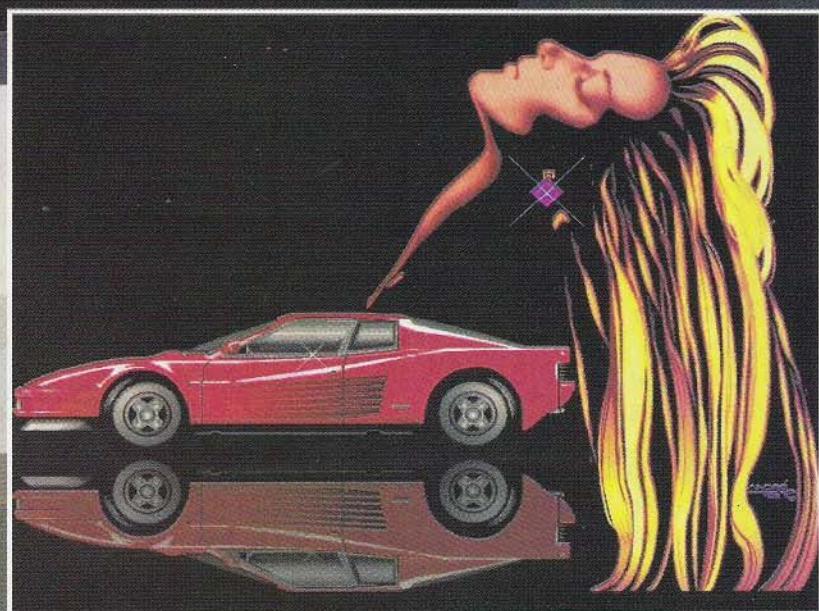
256 x 256, 32 Colours, Created with DPaint.
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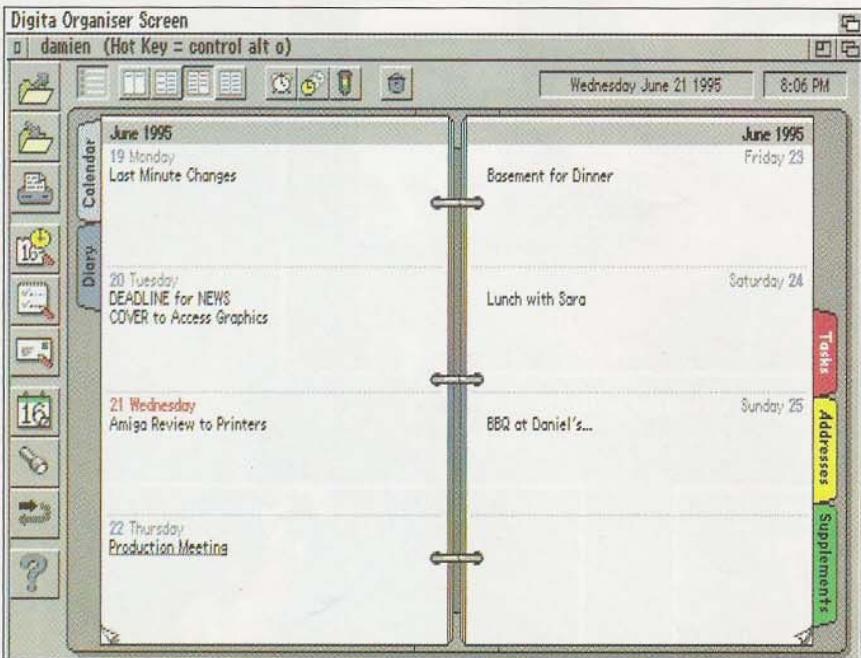
640 x 512, 256 Colours, Created with Brilliance.
By Andre Alexander.



640 x 512, 256 Colours, Created with Brilliance.
By Andre Alexander.



640 x 512, 256 Colours, Created with Brilliance.
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Organiser 1.0 Ships

Lotus Organiser on the IBM PC has been heralded as the measure to which other Personal Information Managers should aspire. I am pleased to say that we have now used Organiser 1.0 from Digitac and that it delivers everything the original beta copy promised and then some. If you have wished for a Lotus Organiser equivalent, Digitac's product is very close. Yes, it's not everything Lotus offer, but this is version 1.0, and 2.0 is already under development.

Some of my earlier criticisms have

been answered. The package works well, and looks fabulous. Without any doubt, Digitac are the leaders in productivity software for the Amiga both in terms of their overall strategy and quality of each product. The documentation is good, online help is excellent and the interface wonderful. There's more space for address details than the earlier copy we saw, and events can have an alarm days or hours before. You can even have Organiser launch applications for you. I'm impressed, and in fact will be using this product considerably. Thoroughly recommended. For more information call Amadeus on (02) 651 1711. RRP \$99.

Quick Bits

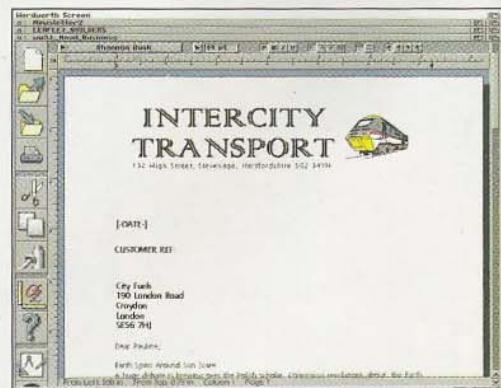
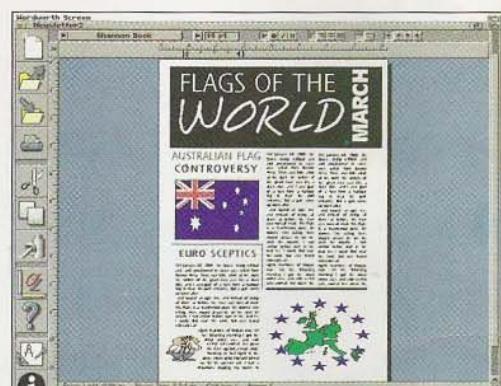
- Commodore U.K. is rumoured to be closing down after ESCOM gave them the cold shoulder.
- IBM has taken over Lotus, but the local Lotus people aren't talking about it.
- Wordworth 4.0 is expected before the end of the year - Lightwave 4.0 should be here by mid-July, and

Pagestream 3.0h updates will be in cyberspace by the time you read this (check Compuserve GO AMIGAVENDOR, or the Internet Aminet sites).

• Megatron are said to be favourites for local distribution of the Amiga, however there are several other interested parties.

Wordworth Companion

Manuals have a legendary ability to gloss over the best bits of most software. Although Wordworth is certainly a cut above average in this department, the release of the Wordworth Companion is certainly a welcome thing. This 222 page book promises and delivers a complete range of tutorials from business cards to newsletters, with a handy disk of clip-art and fonts to make the going more interesting. Every few pages there's also a handy Wordworth tip - many of them not easily gleened from the regular manual. There's a good section on mail merge and making labels, and everything is very nicely presented. If you use Wordworth for anything more than typing letters, get this book. For more information call Amadeus on (02) 651 1711. RRP \$49.



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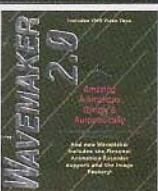
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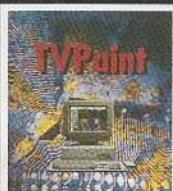
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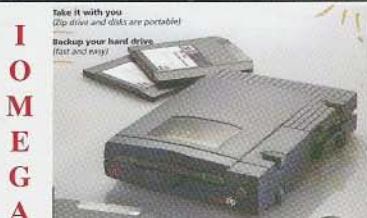
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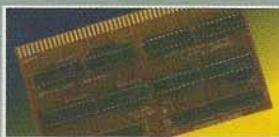
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